

R V R Elettronica TX-K-KLC Series Broadcast Systems Owner's Manual

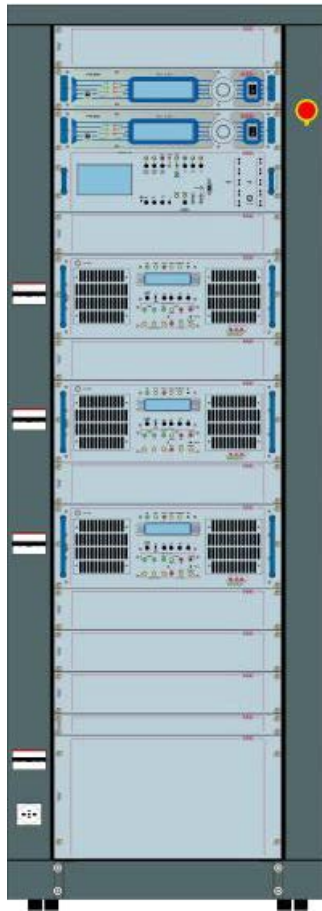
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R V R Elettronica TX-K-KLC Series Broadcast Systems



Product Information

Model: TX15K-KLC

The TX-K-KLC series is a liquid-cooled modular transmitter system designed for FM stations. The TX15K-KLC model has a power output of 15,000W.

Features:

- **Hardware Features:** The system offers maximum modularity and scalability, allowing for economical compositions with single exciter or redundant custom compositions with double exciter.
- **Power & Quality:** The U-KLC series-based transmitters enable the creation of compact equipment up to 20kW. The system utilizes high-efficiency pumps and does not require forced ventilation, resulting in high energy savings. The cooling system operates with a low-pressure circuit and includes a double pump with automatic switching and diagnostics.
- **Reliability & Redundancy:** The transmitter ensures extremely safe operation by cutting the power supply line to various relay switches when the emergency button is pressed. Exciters remain operational.
- **User-Friendly Features:** The transmitter is equipped with user-friendly software and a simple, intuitive HM interface for easy setup and control of all operating parameters.
- **Ease of Maintenance:** The transmitter incorporates advanced modular engineering concepts for improved accessibility and ease of maintenance. It also features lightweight components, creating a better cleaner work environment with low environmental noise.
- **Remote Control:** The device comes with a powerful telemetry system for remote control.

Product Usage Instructions

To use the TX15K-KLC transmitter, follow these steps:

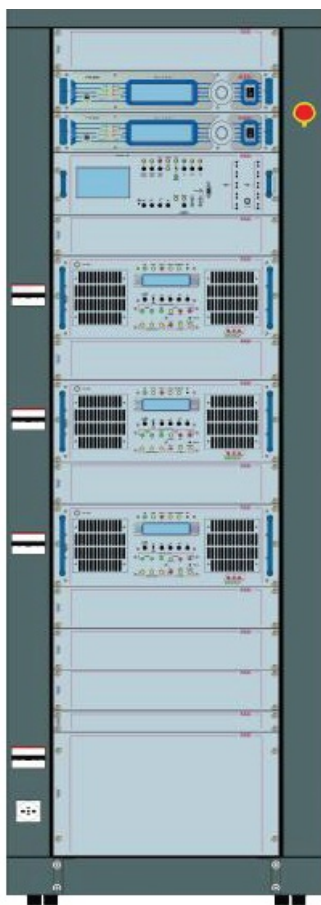
1. Ensure that the transmitter is properly connected to the powersupply.
2. Use the user-friendly software and HM interface to set up the operating parameters. Refer to the user manual for detailed instructions on parameter configuration.
3. For stereo operation, connect the audio input to the transmitter using a 3-1/8 EIA Flange cable.
4. Adjust the audio input impedance according to your specific requirements.
5. Monitor the RF output power and frequency stability to ensure optimal performance.
6. If using stereo operation, monitor the stereo FM S/N ratio, stereo separation, linear cross talk, and non-linear cross talk to maintain audio quality.
7. Perform regular maintenance tasks as outlined in the user manual to ensure proper functioning of the transmitter.
8. If remote control is desired, utilize the included telemetry system for controlling the transmitter remotely. Refer to the user manual for instructions on setting up and using the telemetry system.

If you encounter any issues or have further questions regarding the usage of the TX15K-KLC transmitter, please refer to the user manual or contact R.V.R. Elettronica S.r.l. for assistance.

ORDERING INFORMATION	
Model	Description
TX15K-KLC	15.000W Liquid cooled system.
TX15KSS/20D213J	Modular transmitter, 15kW (composed of HC-CCU + 3x PJ5000U-KLC + 2x PTX30LCD/S).
TX15KSS/41D213J	Modular transmitter, 15kW (composed of HC-CCU + 3x PJ5000U-KLC + 2x PTX30LCDDSP).
TX15KSS/60D213J	Modular transmitter, 15kW (composed of HC-CCU + 3x PJ5000U-KLC + 2x PTX30DDS).
TX15KSS/20S213J	Modular transmitter, 15kW (composed of HC-CCU + 3x PJ5000U-KLC + PTX30LCD/S).
TX15KSS/41S213J	Modular transmitter, 15kW (composed of HC-CCU + 3x PJ5000U-KLC + PTX30LCDDSP).
TX15KSS/60S213J	Modular transmitter, 15kW (composed of HC-CCU + 3x PJ5000U-KLC + PTX30DDS).

TX15KSS/60D213J

Modular transmitter, 15kW (composed of HC-CCU + 3x PJ5000U-KLC + 2x PTX30DDS).



FEATURES

HARDWARE FEATURES: Maximum modularity and scalability of the system from economical compositions “single exciter” to redundant custom compositions “double exciter”.

POWER & QUALITY: With the family of RVR’s liquid transmitters based on the U-KLC series, is possible to realize compact equipments up to 20kW, with high energy savings thanks to the use of high efficiency pumps and no forcing ventilation. The Cooling system is with low pressure circuit and double pump in automatic switching and diagnostics.

RELIABILITY & REDUNDANCY (business continuity): Extremely safe operation: by pressing the emergency button is cutting the power supply line to the various relay switches while remaining exciters operational.

USER-FRIENDLY FEATURES: user-friendly software and a simple, intuitive HM interface let you easily set up and control all machine operating parameters. user-friendly software and a simple, intuitive HM interface let you easily set up and control all machine operating parameters.

EASE OF MAINTENANCE: accessibility and ease of maintenance are ensured by advanced modular engineering concepts incorporated in the transmitter and by its lightweight components. Better cleaner work environment and low environmental noise.

REMOTE CONTROL: the device comes with a powerful, complete telemetry system.

TX15KSS/60D213J

Parameters		U.M.	Notes
Value			
GENERALS			
RF Output power	kW	15	
Frequency range		87.5 – 108 MHz programmable in 1,10 or 1000 KHz steps	

Frequency stability	ppm	±1	
Nominal frequency deviation		±75 KHz (peak)	
Maximum frequency deviation		±100 KHz (peak)	
Class of emission		180KF8E	
Stereo transmission		Acc. To ITU-R / Rec. 450 (Pilot tone)	
RF output impedance		50 Ω, Unbalanced	
RF output connector		3-1/8" EIA Flange	
VSWR		1.41:1 with automatic fold-back at higher VSWR	
Frequency control		Synthesizer μ processor control	
Modulation capability		±150 KHz	
Modulation mode		Mono, Stereo, Multiplex, SCA, RDS, DARC, Aux	
Pre-emphasis Mode		0/50 (CCIR) μs, 75 (FCC) μs	
Asynchronous AM S/N Ratio		≥ 70 dB unweight, referred to 100% AM modulation at 400 Hz Pre-emphasis and without FM modulation	d without FM modulation
Synchronous AM S/N Ratio		≥ 55 dB, reference to 100% AM modulation at 400 Hz, 50 μs Pre-emphasis with FM modulation at 75 KHz of deviation	FM modulation at 75 KHz of deviation
Harmonics suppression and Spurious	dB	Typically 85	
Overall efficiency	%	Typically 70/72	
RF Harmonics		Exceeds ETSI/CCIR/FCC requirements	
RF Spurious		Exceeds ETSI/CCIR/FCC requirements	
Max Frequency Tolerance		As per ITU (R)	
Analogue Input Level ±75 KHz (peak) deviation		-6 dBu – +6 dBu at 1 KHz, 0 dBu	
Digital Input Level ±75 KHz (peak) deviation		-20.0 dBFS – 0 dBFS (adjustable) at 1 KHz	
MONO OPERATION			



S/N ratio		> 90dB (typical 92dB), 75KHz deviation (30 Hz to 15 KHz base band) rms, unweighted	ighted
Total Harmonic Distortion + Noise	%	Better than 0.15	
Inter Modulation Distortion SMPTE		Better than 0.20% (60 Hz / 7 KHz, 4:1, +4	
Frequency Response		±0.2dB (30Hz – 15Khz)	
Audio Input Impedance		600 Ω balanced or 10 kΩ unbalanced	
MPX OPERATION			
S/N ratio		>90 dB, 75 KHz deviation rmd, unweight	
Total Harmonic Distortion + Noise	%	<0.02%	
Inter Modulation Distortion SMPTE		<0.02% 60 hz / 7 khz, 4:1, +4dbu	
Frequency Response		±0.3dB, 30 Hz to 100 KHz	
Transient Intermodulation Distortion		0.03%, 2.96 KHz square wave and 14 KHz sine wave	
STEREO OPERATION			
Audio Input Impedance		2 K ohm or more	
Stereo FM S/N Ratio unweighted		>84 dB, 30 Hz to 15 KHz deviation (L or R), rms	
Stereo Separation ((Sine wave))		≥ 60 dB (30 Hz – 15 KHz)	
Linear Cross Talk		Better than 50 dB, referred to 100% modulation (30 Hz to 15 KHz)	
Non-linear Cross Talk		Better than 50 dB, referred to 100% modulation	
Total Harmonic Distortion + Noise (L or R)		<0.02%, 60 Hz / 7 KHz, 4:1, +4dBu	
Inter Modulation Distortion SMPTE (L or R)		±0.2 dB, 30 Hz – 15 KHz	
Digital Input Impedance		110 Ω	

All pictures are RVR's property and they are only indicative and not binding. The pictures can be modified without notice. These are general specifications. They show typical values and are subject to change without notice.

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Documents / Resources

	<p>R V R Elettronica TX-K-KLC Series Broadcast Systems [pdf] Owner's Manual TX-K-KLC Series Broadcast Systems, TX-K-KLC Series, Broadcast Systems, Systems</p>
	<p>R V R Elettronica TX-K-KLC Series Broadcast Systems [pdf] Owner's Manual TX40K-KLC, TX40KSS-20D218J, TX40KSS-41D218J, TX40KSS-60D218J, TX-K-KLC Series B roadcast Systems, Broadcast Systems, TX40KSS-20S218J, TX40KSS-41S218J, TX40KSS-60 S218J</p>