

MODULAR LIQUID COOLED SERIES

TX-MODULAR LIQUID COOLED

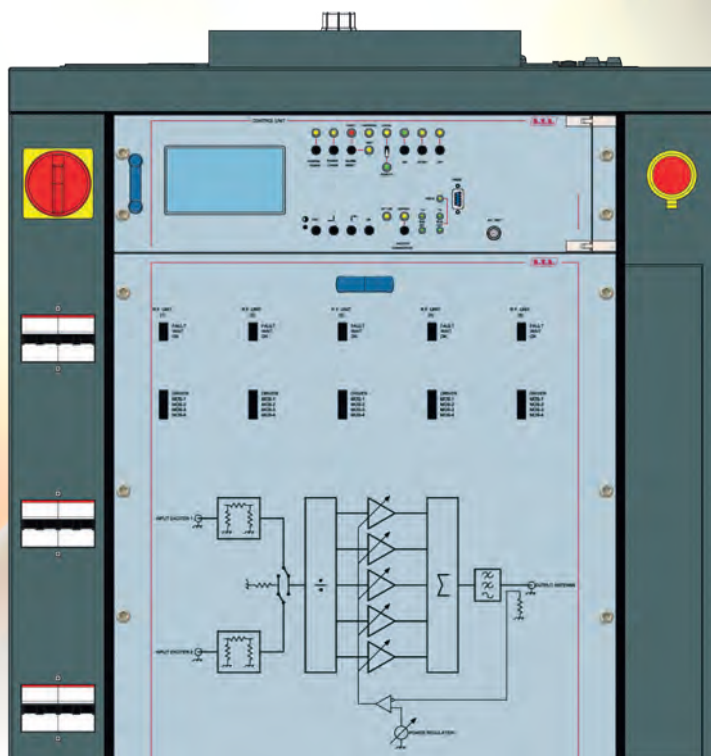
With the family of RVR's liquid transmitters based on the U-KLC series, is possible to realize compact equipments up to 50.000W, with high energy savings thanks to the use of high efficiency pumps and no forcing ventilation. The Cooling system is with low pressure circuit and double pump in automatic switching and diagnostics.

MODELS

TX10K-KLC
TX25K-KLC
TX50K-KLC

TX15K-KLC
TX30K-KLC

TX20K-KLC
TX40K-KLC



- **Scalable Solution from 10.000W to 50.000W.**
- **Best transmission quality, at the best market place.**
- **The most flexible combinations available for high reliability and redundancy.**
- **N+1 Configuration available for 24/7 business continuity.**
- **Tunable over the entire FM band 87.5 - 108 MHz, without tuning. Other bands on request.**
- **WEB, SNMP2, GSM, Serial remote controls (option).**
- **Full compliance with EC, FCC and CCIR standards.**

Amplifiers:

- **Single amplifier's units: from 10.000W to 50.000W.**
- **High-gain with very low input drive power requirement.**
- **Adjustable power output from 10 to 100 %.**
- **Exclusive "Long Life FET" technology for mosfet life extension.**

Exciters:

- **BLUES, TEX, PTX Series depending on client's requirements and budget.**
- **Single and Dual Drive with automatic or manual changeover.**
- **Fold-back control for effective "VSRW" protection.**
- **Including IAML: Intelligent Automatic Modulation Level Control.**

ORDERING INFORMATION

Model	Description
TX10K-KLC	10.000W Liquid cooled system.
TX15K-KLC	15.000W Liquid cooled system.
TX20K-KLC	20.000W Liquid cooled system.
TX25K-KLC	25.000W Liquid cooled system.
TX30K-KLC	30.000W Liquid cooled system.
TX40K-KLC	40.000W Liquid cooled system.
TX50K-KLC	50.000W Liquid cooled system.





TX20K-KLC

20.000W Liquid cooled system.



TX40K-KLC

40.000W Liquid cooled system.



TX50K-KLC

50.000W Liquid cooled system.



TX15K-KLC

Parameters	U.M.	Value	Notes
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) μ s, 75 (FCC) μ s	
Asynchronous AM S/N Ratio		≥ 70 dB unweight, referred to 100% AM modulation at 400 Hz Pre-emphasis and without FM modulation	
Synchronous AM S/N Ratio		≥ 55 dB, reference to 100% AM modulation at 400 Hz, 50 μ s Pre-emphasis with 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	
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 wav end 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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TX20K-KLC

Parameters	U.M.	Value	Notes
GENERALS			
RF Output power	kW	20	
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) μ s, 75 (FCC) μ s	
Asynchronous AM S/N Ratio		≥ 70 dB unweight, referred to 100% AM modulation at 400 Hz Pre-emphasis and without FM modulation	
Synchronous AM S/N Ratio		≥ 55 dB, reference to 100% AM modulation at 400 Hz, 50 μ s Pre-emphasis with 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	
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	
Audio Input Impedance		0.03%, 2.96 KHz square wav end 14 KHzsine 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	

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TX40K-KLC

Parameters	U.M.	Value	Notes
GENERALS			
RF Output power	kW	40	
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		4-1/2" 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) μ s, 75 (FCC) μ s	
Asynchronous AM S/N Ratio		≥ 70 dB unweight, referred to 100% AM modulation at 400 Hz Pre-emphasis and without FM modulation	
Synchronous AM S/N Ratio		≥ 55 dB, reference to 100% AM modulation at 400 Hz, 50 μ s Pre-emphasis with 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	
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	
Audio Input Impedance		0.03%, 2.96 KHz square wav end 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%	

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TX50K-KLC

Parameters	U.M.	Value	Notes
GENERALS			
RF Output power	kW	40	
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		4-1/2" 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) μ s, 75 (FCC) μ s	
Asynchronous AM S/N Ratio		≥ 70 dB unweight, referred to 100% AM modulation at 400 Hz Pre-emphasis and without FM modulation	
Synchronous AM S/N Ratio		≥ 55 dB, reference to 100% AM modulation at 400 Hz, 50 μ s Pre-emphasis with 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	
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	
Audio Input Impedance		0.03%, 2.96 KHz square wav end 14 KHzsine 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%	
Frequency response (L or R)		<0.02%, 60 Hz / 7 kHz, 4:1, +4 dbu	
Frequency response (L or R)		±0.2 dB, 30 Hz – 15 KHz	
Digital Input Impedance		110Ω	

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