

FROM150M TO2kW

FM TRANSMITTER















Brochure

FM TRANSMITTER INDIUM SERIES

The transmitters in this product line are available in 6 different power levels (150W, 300W, 500W, 1000W, 1500W and 2000W).

Winner of the Cool Stuff Award in 2012, these products combine ultra high efficiency, high reliability and low energy consumption in a sleek, 2RU high, compact rack mountable unit.

The 2U line maximizes the concepts of energy efficiency, compactness and reliability that have steered the design over the past ten years. All the transmitters in this line are extremely compact and light, which makes for greater ease in their installation and lower transportation costs. Their high energy efficiency also allows for a considerably lower operating cost. The line is also characterized by extremely high reliability and the ability to ensure high performance even under extreme

operating conditions due to intelligent safety protocols, Icefet technology, and Lifextender algorithms. The intelligent safety protocols are activated proportionately to the severity of the environmental condition, thus guaranteeing the maximum power output in respect to the safety of the equipment. The models from 150 to 500 watts can also operate with a DC power supply of 48VDC (operating range 40–56 VDC), designed for operation with renewable energy sources such as wind and/or solar.

Features:

High efficiency

Extremely low-power consumption and reduced operating costs.

Smart functions/synaptic functions

Extraordinary performance level through the use of powerful operational algorithms and inter-module communications within the transmitter. These software algorithms adapt the transmitter to environmental conditions or to any connected device, preventing poor RF operation or diminished audio quality.

Very compact size and condensed power

Two rack units in height, with a weight of less than 14 kilograms (30.8 lbs), unmatched power versus volume and power versus weight ratio.

Planar technology

Exceptional stability, repeatability, reliability and ease of maintenance through the use of planar technology within the entire RF section (RF modules, combiners, splitter and low-pass filter). This allows for the minimization of internal connections and soldering, which increases the long term operation and performance.

Connected everywhere

The remote control and management features allow users to receive data and send instructions to the transmitter via several state-of-the-art communication channels — SMS, GPRS, TCP/IP and SNMP.





The Elenos Indium Series Low Power FM Series (LPFM) ETG150, 300.3 and 500.5 are now available for DC Operation in applications where AC Power is not available.

The Elenos LPFM Indium series can now be purchased with a DC source option which is designed to operate with renewable energy such as photovoltaic panels or wind turbines which natively produce DC power.

The new ETG LPFM FM Transmitters require a DC input voltage of 48V (40 - 56 VDC) from photovoltaic panels or other DC power source.

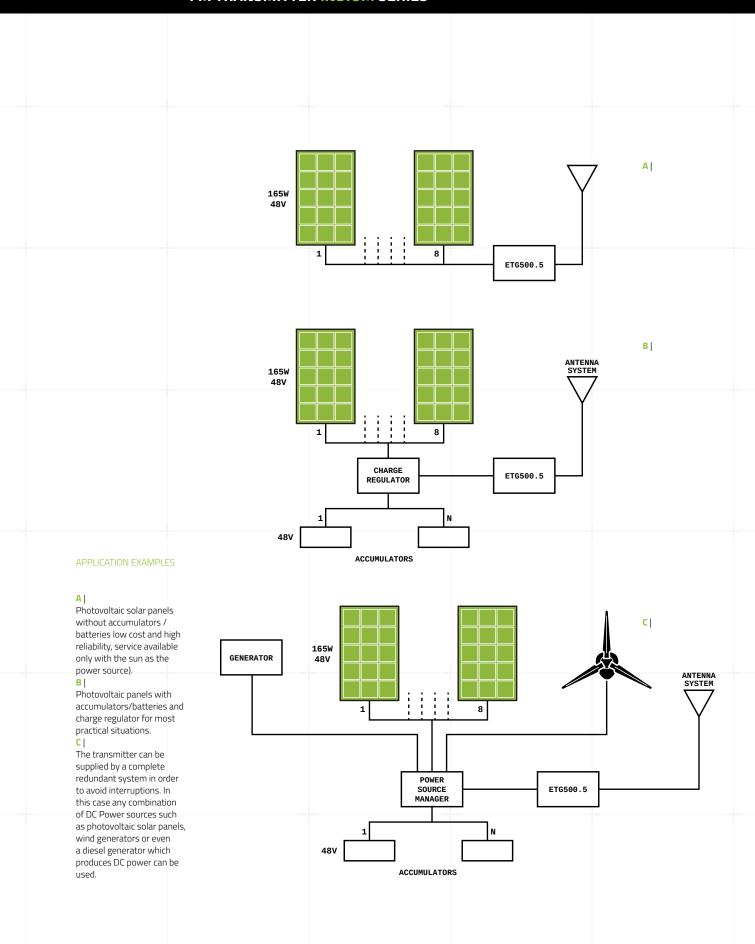
The guaranteed audio and RF performance. Is identical to that of our Indium LPFM transmitters which use single phase AC. The typical DC to RF efficiency is 80%.

The transmitter typical consumption is as follows:

@150W RF: 250W DC. @300W RF: 500W DC.

@500W RF: 800W DC.

For transmitter technical data please see the ETG 150, ETG 300.3 or ETG 500 datasheets.





GENERAL DATA	
Output Nominal Power	150 W adjustable
Operating band	87.5 ÷ 108 MHz
RS232/RS485	Yes. Connector DB9 female
Points of measure	RF Sample - MPX Monitor
Displayed Parameters	More than 50 parameters displayed on a wide graphic 0-LED screen
Adjustments	From the frontal panel through OLED/from PC
Number of L-DMOS in amplifier stage	1
RF power stage technology	ICEFET & ECOSAVING
Dimensions: Rack units	2 RU
Dimensions: W - H - D	48.5 - 8.5 - 58.5 cm / 19.11 - 3.35 - 23.05 inche
Weight	9.4 Kg / 20.72 lbs
Number of cooling fans	2
CONNECTORS	
RF Output	N
MPX	BNC Female
LEFT & RIGHT	XLR Female
AES/EBU	XLR Female
AUX	BNC Female
Monitor/19 kHz	BNC Female
RF PERFORMANCE	
Output impedance	50 Ω
Automatic power RF control	Stabilizes the output power value to the Target power level selected
Overall output power RF stability	+/- 0,1 dB
VSWR	2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit.
Harmonics	< -75 dBc
Out of band emission (spurious)	< -80 dBc
AUDIO PERFORMANCE	
MPX input level	+15/-10 dBu for 75 KHz standard deviation
MPX level adjustment	Soft adjust 0.1 dB steps from front panel
MPX input impedance	5 KΩ selectable
L/R input level	+15/-10 dBu for 75 KHz standard deviation
L/R level adjustment	Soft adjust 0.1 dBu steps from front panel
L/R Input Impedance	Selectable 10 K - 600 Ω , balanced
AES/EBU input resolution	24 bits
AES/EBU input sample rate	32,44.1,48,96 KHz Automatically selected
AES/EBU input level	-20 dBFS - 0 dBFS
AES/EBU input impedance	110 Ω balanced
AES/EBU-Analog input automatic changeover	Yes
PILOT Amplitude adjustment	Soft adjust 0.05% steps from front panel
PILOT Phase adjustment	Soft adjust 0.01 degree steps from front panel
PILOT tone frequency	19 KHz
PILOT tone deviation	Soft adjust +/- 7.5 KHz
PILOT tone frequency stability	+/- 1 Hz
THD+N (stereo/mono operation)	< 0.05% with 75 KHz frequency deviation < 0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz
Pre-emphasis	0/25/50/75 microseconds, selectable
Pre-emphasis tolerance	+/- 0.1 dB
FM S/N (MPX operation)	82 dB 20 Hz to 23 KHz @ 53 KHz - detector RMS
FM S/N CCIR (stereo/mono operation)	> = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis
Asynchronous AM S/N unweighted	> = 55 dB a 400 Hz, 75 us de-emphasis
Synchronous AM S/N	> = 50 dB a 400 Hz, 75 us de-emphasis

ratio 1:1 at 100% modulation Class of emission Stereo emission According to ITU-R reccomendation 450 (pilot tone) KCITER PERFORMANCE PLL lock time Frequency deviation Frequency deviation Frequency stability Frequency stability Frequency steps Phase Response PLL dok time Frequency stability I ppm RF Frequency steps Phase Response Phase Response Phase Response To KHZ NSTALLATION REQUIREMENTS Power supply Power consumption (typical) Current consumption (typical) Overall efficiency (typical from -3 dB to Pnom) Power factor DOULTING/NOISE/DATA Cooling system Acoustic noise Forced air-cooling Acoustic noise Fo		
20 Hz to 15 KHz, @ 400 Hz		
Stereo Crosstalk	(Stereor mono operation)	
Linear crosstalk See See	Stereo Crosstalk	
Intermodulation distortion Class of emission Stereo emission Stereo emission According to ITU-R reccomendation 450 (pilot tone) KCITER PERFORMANCE PLL lock time Frequency deviation Maximum frequency deviation FFrequency stability Frequency stability Frequency steps Phase Response FOWER SUPPLY NOWER SUPPL CULTER COLORING (typical) CULTER COLORING (typical) COLORING NOISE/DATA COOLING NOISE/DATA COOLING System Forced air-cooling Acoustic noise FORCE ACT		@ 20 Hz to 15 KHz
Class of emission F3 Stereo emission According to ITU-R reccomendation 450 (pilot tone) KCITER PERFORMANCE PLL lock time	Linear crosstalk	>60 db 20 Hz to 15 KHz
According to ITU-R reccomendation 450 (pilot tone) KCITER PERFORMANCE PLL lock time Frequency deviation According to ITU-R reccomendation 450 (pilot tone) KCITER PERFORMANCE PLL lock time Frequency deviation Frequency deviation Frequency stability According to ITU-R reccomendation Frequency deviation Frequency deviation Frequency stability According to ITU-R reccomendation Frequency deviation Frequency deviation Frequency stability According to ITU-R reccomendation Frequency deviation Frequency deviation Frequency deviation Frequency deviation Frequency deviation Frequency deviation Frequency stability According to ITU-R reccomendation Frequency Frequency Frequency deviation Frequency Frequenc	Intermodulation distortion	<0.05% Measured with two of tones 1 KHz & 1.3 KHz ratio 1:1 at 100% modulation
A50 (pilot tone) CCITER PERFORMANCE PLL lock time	Class of emission	F3
PLL lock time <10 sec Frequency deviation +/- 75 KHz 0.1 dB steps adjustable Maximum frequency deviation +/- 150 KHz Frequency stability 1 ppm RF Frequency steps 10 KHz Phase Response +/- 0.1 degree from linear phase; 20 KHz to 100 KHz NSTALLATION REQUIREMENTS Power supply 110, 230 Two-Singlephase Version 50-60 Hz VAC Power consumption (typical) 230 W Current consumption (typical@230 V) 1 A Overall efficiency (typical from -3 dB to Pnom) Power factor > 0.95 DOLING/NOISE/DATA COoling system Forced air-cooling Acoustic noise <65 phone @ transmitter room, 2 M distance from the front of the transmitter NVIRONMENT Temperature range (operating) -5 ÷ +45 °C, 23 ÷ 113 °F Temperature range (operating) 95% @ 40 °C, 104 °F Humidity range (operating) 95% @ 40 °C, 104 °F Humidity range (non operating) 96% @ 55 °C, 131 °F Altitude range (operating) <3000 meters / <9840 Feet Altitude range (non operating) <15000 meters / <9840 Feet ELECONTROL & TELEMETRY Remote control Yes Remote control, dry contacts Yes	Stereo emission	
Frequency deviation +/- 75 KHz 0.1 dB steps adjustable Maximum frequency deviation +/- 150 KHz Frequency stability 1 ppm RF Frequency steps 10 KHz Phase Response +/- 0.1 degree from linear phase; 20 KHz to 100 KHz NSTALLATION REQUIREMENTS Power supply 110, 230 Two-Singlephase Version 50-60 Hz VAC Power consumption (typical) 230 W Current consumption (typical@230 V) 1 A Overall efficiency (typical from -3 dB to Pnom) Power factor > 0.95 DOLING/NOISE/DATA COoling system Forced air-cooling Acoustic noise <65 phone @ transmitter room, 2 M distance from the front of the transmitter NVIRONMENT Temperature range (operating) -5 ÷ +45 °C, 23 + 113 °F Temperature range (operating) 95% @ 40 °C, 104 °F Humidity range (operating) 95% @ 40 °C, 104 °F Humidity range (non operating) 43000 meters / <9840 Feet Altitude range (operating) <150000 meters / <9840 Feet Altitude range (non operating) <150000 meters / < 49200 Feet ELECONTROL & TELEMETRY Remote control Yes Remote control, dry contacts Yes	XCITER PERFORMANCE	
Maximum frequency deviation +/- 150 KHz Frequency stability 1 ppm RF Frequency steps 10 KHz Phase Response +/- 0.1 degree from linear phase; 20 KHz to 100 KHz NSTALLATION REQUIREMENTS Power supply 110, 230 Two-Singlephase Version 50-60 Hz VAC Power consumption (typical) 230 W Current consumption (typical@230 V) 1 A Overall efficiency (typical from -3 dB to Pnom) Power factor > 0.95 DOLING/NOISE/DATA Cooling system Forced air-cooling Acoustic noise 65 phone @ transmitter room, 2 M distance from the front of the transmitter NVIRONMENT Temperature range (operating) -5 + +45 °C, 23 + 113 °F Temperature range (non operating) 95% @ 40 °C, 104 °F Humidity range (operating) 95% @ 40 °C, 104 °F Humidity range (non operating) 90% @ 55 °C, 131 °F Altitude range (non operating) 4000 meters / < 49200 Feet ELECONTROL & TELEMETRY Remote control Yes Remote control, dry contacts Yes	PLL lock time	<10 sec
Frequency stability RF Frequency steps 10 KHz Phase Response 20 KHz to 100 KHz NSTALLATION REQUIREMENTS Power supply 110, 230 Two-Singlephase Version 50-60 Hz VAC Power consumption (typical) 230 W Current consumption (typical@230 V) Overall efficiency (typical from -3 dB to Pnom) Power factor Power factor OLING/NOISE/DATA Cooling system Acoustic noise Cobject Temperature range (operating) Temperature range (operating) Temperature range (operating) Humidity range (operating) Altitude range (non operating) Altitude range (non operating) Altitude range (non operating) Remote control Remote control, dry contacts Yes	Frequency deviation	+/- 75 KHz 0.1 dB steps adjustable
RF Frequency steps Phase Response ### 10 KHz Phase Response ### 10.1 degree from linear phase; 20 KHz to 100 KHz ### 100 KHz Power supply ### 110, 230 Two-Singlephase Version 50-60 Hz VAC Power consumption (typical) ### 230 W Current consumption (typical) ### 230 W Current consumption (typical from -3 dB	Maximum frequency deviation	+/- 150 KHz
Phase Response	Frequency stability	1 ppm
NSTALLATION REQUIREMENTS Power supply	RF Frequency steps	10 KHz
Power supply 110, 230 Two-Singlephase Version 50-60 Hz VAC Power consumption (typical) Current consumption (typical@230 V) Overall efficiency (typical from -3 dB to Pnom) Power factor Cooling system Acoustic noise Cooling system Temperature range (operating) Temperature range (non operating) Temperature range (operating) Humidity range (operating) Altitude range (operating) Altitude range (non operating) Altitude range (non ope	Phase Response	
Power consumption (typical) Current consumption (typical@230 V) Overall efficiency (typical from -3 dB to Pnom) Power factor Cooling system Acoustic noise Temperature range (operating) Temperature range (non operating) Temperature range (operating) Humidity range (operating) Altitude range (operating) Altitude range (non operating) Alti	NSTALLATION REQUIREMENTS	
Current consumption (typical@230 V) 1 A Overall efficiency (typical from -3 dB	Power supply	110, 230 Two-Singlephase Version 50-60 Hz VAC
Overall efficiency (typical from -3 dB to Pnom) Power factor > 0.95 DOLING/NOISE/DATA Cooling system Forced air-cooling Acoustic noise < 65 phone @ transmitter room, 2 M distance from the front of the transmitter NVIRONMENT Temperature range (operating) -5 ÷ +45 °C, 23 ÷ 113 °F Temperature range (non operating) -20 ÷ +55 °C, -4 ÷ 131 °F Humidity range (operating) 95% @ 40 °C, 104 °F Humidity range (non operating) 90% @ 55 °C, 131 °F Altitude range (operating) <3000 meters / <9840 Feet Altitude range (non operating) <15000 meters / < 49200 Feet ELECONTROL & TELEMETRY Remote control Yes Remote control, dry contacts Yes	Power consumption (typical)	230 W
to Pnom) Power factor > 0.95 DOLING/NOISE/DATA Cooling system Forced air-cooling Acoustic noise < 65 phone @ transmitter room, 2 M distance from the front of the transmitter NVIRONMENT Temperature range (operating) -5 ÷ +45 °C, 23 ÷ 113 °F Temperature range (non operating) -20 ÷ +55 °C, -4 ÷ 131 °F Humidity range (operating) 95% @ 40 °C, 104 °F Humidity range (non operating) 90% @ 55 °C, 131 °F Altitude range (operating) <3000 meters / <9840 Feet Altitude range (non operating) <15000 meters / < 49200 Feet ELECONTROL & TELEMETRY Remote control Yes Remote control, dry contacts Yes	Current consumption (typical@230 V)	1 A
Cooling system Acoustic noise Acoustic noise Temperature range (operating) Temperature range (non operating) Humidity range (non operating) Altitude range (operating) Altitude range (non operating) Altitude range (non operating) Remote control Remote control, dry contacts Forced air-cooling < 65 phone @ transmitter room, 2 M distance from the front of the transmitter - 26 + 45 °C, 23 ÷ 113 °F - 20 ÷ +55 °C, -4 ÷ 131 °F - 20 ÷ +55 °C, -4 ÷ 131 °F - 20 ÷ +55 °C, -104 °F - 20 ÷ +55 °C, -20 ÷ -20 °F - 20 ÷ +55 °C, -20 ÷ -20 °F - 20 ÷ +55 °C, -20 ÷ -20 °F - 20 ÷ +55 °C, -30 °F - 20 ÷ +55 °C, -4 ÷ 131 °F - 20 ÷ +55 °C, -104 °F - 20 ÷ +55 °C, -20 ÷ -20 °F - 20 ÷ +55 °C, -30 °F - 20 ÷ +55 °C, -4 ÷ 131 °F - 20 ÷ +55 °C, -104 °F - 20 ÷ +55 °C, -104 °F - 20 ÷ +55 °C, -4 ÷ 131 °F - 20 ÷ +55 °C, -104 °F	, , , , ,	> = 70%
Cooling system Acoustic noise <pre></pre>	Power factor	> 0.95
Acoustic noise <pre></pre>	OOLING/NOISE/DATA	
from the front of the transmitter NVIRONMENT Temperature range (operating) -5 ÷ +45 °C, 23 ÷ 113 °F Temperature range (non operating) -20 ÷ +55 °C, -4 ÷ 131 °F Humidity range (operating) 95% @ 40 °C, 104 °F Humidity range (non operating) 90% @ 55 °C, 131 °F Altitude range (operating) <3000 meters / <9840 Feet Altitude range (non operating) <15000 meters / < 49200 Feet ELECONTROL & TELEMETRY Remote control Yes Remote control, dry contacts Yes	Cooling system	Forced air-cooling
Temperature range (operating) -5 ÷ +45 °C, 23 ÷ 113 °F Temperature range (non operating) -20 ÷ +55 °C, -4 ÷ 131 °F Humidity range (operating) 95% @ 40 °C, 104 °F Humidity range (non operating) 90% @ 55 °C, 131 °F Altitude range (operating) <3000 meters / <9840 Feet Altitude range (non operating) <15000 meters / < 49200 Feet ELECONTROL & TELEMETRY Remote control Yes Remote control, dry contacts Yes	Acoustic noise	
Temperature range (non operating) -20 ÷ +55 °C, -4 ÷ 131 °F Humidity range (operating) 95% @ 40 °C, 104 °F Humidity range (non operating) 90% @ 55 °C, 131 °F Altitude range (operating) Altitude range (non operating) <15000 meters / <9840 Feet	NVIRONMENT	
Humidity range (operating) Humidity range (non operating) 90% @ 55 °C, 131 °F Altitude range (operating) Altitude range (non operating) Altitude range (n	Temperature range (operating)	-5 ÷ +45 °C, 23 ÷ 113 °F
Humidity range (non operating) 90% @ 55 °C, 131 °F Altitude range (operating) <3000 meters / <9840 Feet Altitude range (non operating) <15000 meters / < 49200 Feet ELECONTROL & TELEMETRY Remote control Yes Remote control, dry contacts Yes	Temperature range (non operating)	-20 ÷ +55 °C, -4 ÷ 131 °F
Altitude range (operating) <3000 meters / <9840 Feet Altitude range (non operating) <15000 meters / < 49200 Feet ELECONTROL & TELEMETRY Remote control Yes Remote control, dry contacts Yes	Humidity range (operating)	95% @ 40 °C, 104 °F
Altitude range (non operating) <15000 meters / < 49200 Feet ELECONTROL & TELEMETRY Remote control Yes Remote control, dry contacts Yes	Humidity range (non operating)	90% @ 55 °C, 131 °F
Remote control Yes Remote control, dry contacts Yes	Altitude range (operating)	<3000 meters / <9840 Feet
Remote control Yes Remote control, dry contacts Yes	Altitude range (non operating)	<15000 meters / < 49200 Feet
Remote control, dry contacts Yes	ELECONTROL & TELEMETRY	
	Remote control	Yes
SNMP option Yes (external)	Remote control, dry contacts	Yes
	SNMP option	Yes (external)



GENERAL DATA	
Output Nominal Power	300 W adjustable
Operating band	87.5 ÷ 108 MHz
RS232/RS485	Yes. Connector DB9 female
Points of measure	RF Sample - MPX Monitor
Displayed Parameters	More than 50 parameters displayed on a wide
. ,	graphic 0-LED screen
Adjustments	From the frontal panel through OLED/from PC
Number of L-DMOS in amplifier stage	1
RF power stage technology	ICEFET & ECOSAVING
Dimensions: Rack units	2 RU
Dimensions: W - H - D	48.5 - 8.5 - 58.5 cm / 19.11 - 3.35 - 23.05 inches
Weight	9.4 Kg / 20.72 lbs
Number of cooling fans	2
CONNECTORS	
RF Output	N
MPX	BNC Female
LEFT & RIGHT	XLR Female
AES/EBU	XLR Female
AUX	BNC Female
Monitor/19 kHz	BNC Female
RF PERFORMANCE	Bito : ciliato
Output impedance	50 Ω
Automatic power RF control	Stabilizes the output power value to the Target
Automatic poner in control	power level selected
Overall output power RF stability	+/- 0,1 dB
VSWR	2:1 at full power. Automatic power reduction
	beyond 1.7:1. Transmitter is protected fro open
 	and short circuit.
Harmonics	< -75 dBc
Out of band emission (spurious)	< -80 dBc
AUDIO PERFORMANCE	ME (40 dB). For 75 MID about deviation
MPX input level	+15/-10 dBu for 75 KHz standard deviation
MPX level adjustment	Soft adjust 0.1 dB steps from front panel
MPX input impedance	5 K $Ω$ selectable
L/R input level	+15/-10 dBu for 75 KHz standard deviation
L/R level adjustment	Soft adjust 0.1 dBu steps from front panel
L/R Input Impedance	Selectable 10 K - 600 Ω , balanced
AES/EBU input resolution	24 bits
AES/EBU input sample rate	32,44.1,48,96 KHz Automatically selected
AES/EBU input level	-20 dBFS - 0 dBFS
AES/EBU input impedance	110 Ω balanced
AES/EBU-Analog input automatic changeover	Yes
PILOT Amplitude adjustment	Soft adjust 0.05% steps from front panel
PILOT Phase adjustment	Soft adjust 0.01 degree steps from front panel
PILOT tone frequency	19 KHz
PILOT tone deviation	Soft adjust +/- 7.5 KHz
PILOT tone frequency stability	+/- 1 Hz
THD+N (stereo/mono operation)	< 0.05% with 75 KHz frequency deviation < 0.05% with 100 KHz frequency deviation
	30 Hz to 15 KHz
Pre-emphasis	0/25/50/75 microseconds, selectable
Pre-emphasis tolerance	+/- 0.1 dB
FM S/N (MPX operation)	82 dB
,	20 Hz to 23 KHz
	@ 53 KHz - detector RMS
FM S/N CCIR (stereo/mono operation)	> = 72 dB weighted
	> = 72 dB unweighted 400 Hz, 75 kHz frequency deviation,
	quasi-peak detector, 50 us de-emphasis
Asynchronous AM S/N unweighted	> = 55 dB a 400 Hz, 75 us de-emphasis
Synchronous AM S/N	> = 50 dB a 400 Hz, 75 us de-emphasis
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Amplitude-frequency characteristic	+/- 0.1 dB (without pre-emphasis)
(stereo/mono operation)	+/- 0.1 dB (with pre-emphasis) 20 Hz to 15 KHz, @ 400 Hz
Stereo Crosstalk	>60 dB
	@ 20 Hz to 15 kHz
Linear crosstalk	>60 db 20 Hz to 15 KHz
Intermodulation distortion	<0.05% Measured with two of tones 1 KHz & 1.3 KHz ratio 1:1 at 100% modulation
Class of emission	F3
Stereo emission	According to ITU-R reccomendation 450 (pilot tone)
CITER PERFORMANCE	
PLL lock time	<10 sec
Frequency deviation	+/- 75 KHz 0.1 dB steps adjustable
Maximum frequency deviation	+/- 150 KHz
Frequency stability	1 ppm
RF Frequency steps	10 KHz
Phase Response	+/- 0.1 degree from linear phase; 20 KHz to 100 KHz
STALLATION REQUIREMENTS	
Power supply	110, 230 Two-Singlephase Version 50-60 Hz VAC
Power consumption (typical)	430 W
Current consumption (typical@230 V)	1.9 A
Overall efficiency (typical from -3 dB to Pnom)	> = 70%
Power factor	> 0.95
OLING/NOISE/DATA	
Cooling system	Forced air-cooling
Acoustic noise	< 65 phone @ transmitter room, 2 M distance from the front of the transmitter
VIRONMENT	
Temperature range (operating)	-5 ÷ +45 °C, 23 ÷ 113 °F
Temperature range (non operating)	-20 ÷ +55 °C, -4 ÷ 131 °F
Humidity range (operating)	95% @ 40 °C, 104 °F
Humidity range (non operating)	90% @ 55 °C, 131 °F
Altitude range (operating)	<3000 meters / <9840 Feet
Altitude range (non operating)	<15000 meters / < 49200 Feet
LECONTROL & TELEMETRY	
Remote control	Yes
Remote control, dry contacts	Yes



Output Nominal Power Operating band RS232/RS485 Points of measure Displayed Parameters Adjustments RF power stage technology Dimensions: Rack units Power to March Mar		
Operating band 87.5 + 188 MHz RS232/RS485 Yes. Connector DB9 female Points of measure RF Sample - MPX Monitor Displayed Parameters More than 50 parameters displayed on a wide graphic 8-LED screen Adjustments From the frontal panel through OLED/from PC Number of L-DMOS in amplifier stage 1	GENERAL DATA	FOO W adjustable
RS222/RS485 Yes. Connector D89 female Points of measure RF Sample - MPX Monitor		
Points of measure Displayed Parameters More than 50 parameters displayed on a wide graphic 0-LED screen Adjustments From the frontal panel through OLED/from PC Number of L-DMOS in amplifier stage 1 RF power stage technology ICEFET & ECOSAVING Dimensions: Rack units 2 RU Dimensions: Rack units 2 RU Dimensions: Rack units 2 RU Dimensions: W + H + D 48.5 - 8.5 - 58.5 cm / 19.11 - 3.35 - 23.65 inc Weight 9.4 Kg / 20.72 lbs Number of cooling fans 2 CONNECTORS RF Output 7/16" DIN Female (or on demand) or N on demand MPX BNC Female LEFT & RIGHT XLR Female ALS/EBU XLR Female ALS/EBU XLR Female ALS ALS BNC Female Output impedance 50 Ω Output impedance 55 Ω Output impedance 55 Ω Output impedance 55 Ω Stabilizes the output power value to the Target power level selected Overall output power RF stability +/- 0,1 dB VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics < -75 GBC Out of band emission (spurious) < -80 GBC MDIO PERFORMANCE MPX Input level +15/-10 dBu for 75 KHz standard deviation MPX level adjustment Soft adjust 0-1 dBu steps from front panel MPX largual resolution 24 bits AES/EBU input resolution 50 ft adjust 0-1 dBu steps from front panel L/R input Impedance 10 GBC - 10 G	· · ·	
Displayed Parameters More than 56 parameters displayed on a wide graphic 0-LED screen		
Adjustments From the frontal panel through OLED/from PC		
Number of L-DMOS in amplifier stage 1	Displayed Parameters	
RF power stage technology ICEFET & ECOSAVING	Adjustments	From the frontal panel through OLED/from PC
Dimensions: Rack units 2 RU	Number of L-DMOS in amplifier stage	1
Dimensions: W - H - D 48.5 - 8.5 - 58.5 cm / 19.11 - 3.35 - 23.05 incl Weight 9.4 Kg / 20.72 lbs Number of cooling fans 2 CONNECTORS RF Output 7/16" DIN Female (or on demand) or N on demand MPX 8NC Female LEFT & RIGHT XLR Female ALSZEBU ALIX BNC Female Output impedance Automatic power RF control Overall output power RF stability 7'-0,1 dB VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) C - 80 dBc UDIO PERFORMANCE MPX input level MPX level adjustment MPX level adjustment MPX level adjustment MPX level adjustment Soft adjust 9.1 dB steps from front panel MPX input level L/R input level 15/-10 dBu for 75 KHz standard deviation MPX level adjustment Soft adjust 9.1 dB steps from front panel L/R input layedance L/R input layedance ASS/EBU input resolution AES/EBU input sample rate 32,44.1,48,96 KHz Automatically selected AES/EBU input impedance AES/EBU input imp	RF power stage technology	ICEFET & ECOSAVING
Weight 9.4 Kg / 20.72 lbs	Dimensions: Rack units	2 RU
Number of cooling fans 2	Dimensions: W - H - D	48.5 - 8.5 - 58.5 cm / 19.11 - 3.35 - 23.05 inch
RE OUTPUT 7/16" DIN Female (or on demand) or N on demand MPX BNC Female LEFT & RIGHT XLR Female AES/EBU XLR Female AUX BNC Female Monitor/19 kHz BNC Female Monitor/19 kHz BNC Female Monitor/19 kHz BNC Female Output impedance Automatic power RF control Stabilizes the output power value to the Target power level selected Overall output power RF stability VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) KNE input level adjustment MPX input level adjustment MPX input level adjustment Soft adjust 0.1 dB steps from front panel L/R input level 4:15/-10 dBu for 75 kHz standard deviation MPX level adjustment Soft adjust 0.1 dB steps from front panel L/R level adjustment Soft adjust 0.1 dBu steps from front panel L/R level adjustment Soft adjust 0.1 dBu steps from front panel L/R level adjustment Soft adjust 0.1 dBu steps from front panel AES/EBU input sample rate AES/EBU input sample rate AES/EBU input sample rate AES/EBU input sample rate AES/EBU input level -20 dBFS - 0 dBFS AES/EBU input impedance I10 Ω balanced AES/EBU input impedance AES/EBU input impedance AES/EBU input sample rate Soft adjust 0.01 degree steps from front panel PILOT Phase adjustment Soft adjust 0.01 degree steps from front panel PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) Soft adjust 0.2 kHz 0/25/59/75 microseconds, selectable +/- 0.1 dB Pre-emphasis tolerance +/- 0.1 dB PR S/N (MPX operation) Soft NRZ detector RMS - 2 Z dB unweighted PR S/N CCIR (stereo/mono operation) Soft NRZ detector RMS - 2 Z dB unweighted Soft NRZ frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted Soft adjust-pack detector, 50 us de-emphasis	Weight	9.4 Kg / 20.72 lbs
RF Output 7/16" DIN Female (or on demand) or N on demand MPX 8NC Female LEFT & RIGHT AES/EBU ALX Female ALX Female ALX BNC Female MONITOR 19 kHz BNC Female MONITOR 19 kHz BNC Female AUTOR FEMALE Output impedance Automatic power RF control Overall output power RF stability	Number of cooling fans	2
MPX	CONNECTORS	
LEFT & RIGHT AES/EBU AUX BNC Female Monitor/19 kHz BNC Female Monitor/19 kHz BNC Female Stabilizes the output power value to the Target power level selected Output impedance Automatic power RF control Overall output power RF stability VSWR VSWR C1 at full power. Automatic power reduction beyond 1.71. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) VSWR AUDIO PERFORMANCE MPX input level MPX input level adjustment MPX level adjustment MPX input impedance L/R input level L/R input level L/R input impedance L/R input mpedance L/R input impedance AES/EBU input sample rate AES/EBU input sample rate AES/EBU input impedance AES/EBU input impe	RF Output	7/16" DIN Female (or on demand) or N on demand
AES/EBU ALV AES/EBU ALV ANY BNC Female BNC Female BNC Female Automatic power RF control Overall output impedance Automatic power RF control Overall output power RF stability VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) WEX input level HAPM input level HEX input level APS input level L/R input level AES/EBU input resolution AES/EBU input resolution AES/EBU input sample rate AES/EBU input impedance AES/EBU input i	MPX	BNC Female
AUX Monitor/19 kHz BNC Female Ror PERFORMANCE Output impedance Automatic power RF control Overall output power RF stability VSWR Signature Automatic power RF stability VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) 80 dBc Out of band emission (spurious) 80 dBc AUDIO PERFORMANCE MPX input level MPX input level MPX input impedance L/R input level L/R input level L/R input level L/R input level L/R input impedance L/R input impedance Besietable 10 K - 600 Ω, balanced AES/EBU input resolution AES/EBU input sample rate AES/EBU input impedance AES/EBU input impedance AES/EBU input impedance AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment Soft adjust 0.1 degree steps from front panel PILOT tone frequency PILOT tone frequency PILOT tone frequency PILOT tone frequency stability PTLOT tone frequency stability THD+N (stereo/mono operation) AES dB 20 Hz 20 BS with 190 KHz Pre-emphasis O/25/56/75 microseconds, selectable Pre-emphasis tolerance FM S/N CCIR (stereo/mono operation) Soft adjust -7.5 KHz Pre-emphasis tolerance FM S/N CCIR (stereo/mono operation) Soft adjust -7.5 KHz Pre-emphasis tolerance FM S/N CCIR (stereo/mono operation) Soft adjust -7.5 KHz Pre-emphasis O/25/56/75 microseconds, selectable Pre-emphasis tolerance FM S/N CCIR (stereo/mono operation) Soft adjust -7.5 KHz Pre-emphasis tolerance FM S/N CCIR (stereo/mono operation) Soft adjust -7.5 KHz frequency deviation Soft adjust -7.5 KHz frequency deviation, Quasi-peak detector, 50 us de-em	LEFT & RIGHT	XLR Female
Monitor/19 kHz RF PERFORMANCE Output impedance Automatic power RF control Overall output power RF stability VSWR VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Across control Out of band emission (spurious) WDIO PERFORMANCE MPX input level MPX input level MPX input level MPX input level MPX input lampedance L/R input level L/R input level L/R input level L/R input mpedance L/R input mpedance L/R input mpedance AES/EBU input sample rate AES/EBU input sample rate AES/EBU input sample rate AES/EBU input level AES/EBU input level AES/EBU input bevel AES/EBU input dimpedance AES/EBU input dimpedance AES/EBU input dimpedance AES/EBU input to sample rate AES/EBU input dimpedance AES/EBU input formal dimpedance AES/EBU input dimpedance AES/EBU input formal dimpedance AES/EBU input	AES/EBU	XLR Female
Qutput impedance 50 Ω Automatic power RF control Stabilizes the output power value to the Target power level selected Overall output power RF stability +/- 0,1 dB VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics < -75 dBC	AUX	BNC Female
Output impedance 50 Ω Automatic power RF control Stabilizes the output power value to the Target power level selected Overall output power RF stability +/- 0,1 dB VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics < -75 dBC Out of band emission (spurious) < -80 dBC NPX input level +15/-10 dBu for 75 KHz standard deviation MPX level adjustment Soft adjust 0.1 dB steps from front panel MPX input impedance 5 KΩ selectable L/R input level +15/-10 dBu for 75 KHz standard deviation MPX level adjustment Soft adjust 0.1 dBu steps from front panel L/R input impedance 5 KΩ selectable L/R input Impedance Selectable 10 K - 600 Ω, balanced AES/EBU input sample rate 32,44.1,48,96 KHz Automatically selected AES/EBU input level -20 dBFS - 0 dBFS AES/EBU input impedance 110 Ω balanced AES/EBU input timpedance 110 Ω balanced AES/EBU input impedance 110 Ω balanced AES/EBU inpu	Monitor/19 kHz	BNC Female
Output impedance 50 Ω Automatic power RF control Stabilizes the output power value to the Target power level selected Overall output power RF stability +/- 0,1 dB VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics < -75 dBc		
Automatic power RF control Overall output power RF stability VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics < -75 dBc Out of band emission (spurious) VSWD10 PERFORMANCE MPX input level MPX input level MPX input level adjustment Soft adjust 0.1 dB steps from front panel MPX input level L/R input level L/R input level L/R input Impedance Eslectable L/R input Impedance AES/EBU input resolution AES/EBU input sample rate AES/EBU input level AES/EBU input level AES/EBU input limpedance AES/EBU input limpedance AES/EBU input lawlomatic changeover PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT tone frequency PILOT		50 Q
Overall output power RF stability		
VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) < -75 dBc Dublo PERFORMANCE WDX input level MPX input level MPX input impedance L/R input level L/R input level MPX input impedance L/R input impedance L/R input Impedance L/R input Impedance Selectable 10 K - 600 Ω, balanced AES/EBU input resolution AES/EBU input impedance AES/EBU inp	, p	
beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics < -75 dBc Out of band emission (spurious) < -80 dBc MDTO PERFORMANCE MPX input level	Overall output power RF stability	+/- 0,1 dB
Out of band emission (spurious) < -80 dBc NDDIO PERFORMANCE MPX input level	VSWR	beyond 1.7:1. Transmitter is protected fro open
MPX input level	Harmonics	< -75 dBc
MPX input level	Out of band emission (spurious)	< -80 dBc
MPX level adjustment MPX input impedance L/R input level L/R input level L/R level adjustment Soft adjust 0.1 dB steps from front panel MPX input impedance L/R input level L/R level adjustment Soft adjust 0.1 dBu steps from front panel L/R Input Impedance Selectable 10 K - 600 Ω, balanced AES/EBU input resolution AES/EBU input sample rate AES/EBU input impedance AES/EBU input impedance AES/EBU input impedance AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT tone frequency PILOT tone frequency PILOT tone frequency 19 KHz PILOT tone frequency stability H/- 1 Hz THD+N (stereo/mono operation) Soft adjust 0.05% with 75 KHz frequency deviation < 0.05% with 100 KHz frequency deviation Soft adjust 0.1 dB Pre-emphasis 0/25/50/75 microseconds, selectable Pre-emphasis tolerance H/- 0.1 dB FM S/N (MPX operation) Soft adjust 0.23 KHz 6 53 KHz - detector RMS > 72 dB uniepithed > 72 dB uniepithed > 72 dB uniepithed > 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted > 55 dB a 400 Hz, 75 us de-emphasis	AUDIO PERFORMANCE	
MPX input impedance L/R input level L/R input level L/R level adjustment Soft adjust 0.1 dBu steps from front panel L/R Input Impedance AES/EBU input resolution AES/EBU input sample rate AES/EBU input level AES/EBU input impedance AES/EBU input	MPX input level	+15/-10 dBu for 75 KHz standard deviation
L/R input level	MPX level adjustment	Soft adjust 0.1 dB steps from front panel
L/R level adjustment L/R Input Impedance Selectable 10 K - 600 Ω, balanced AES/EBU input resolution AES/EBU input sample rate 32,44.1,48,96 KHz Automatically selected AES/EBU input level -20 dBFS - 0 dBFS AES/EBU input impedance 110 Ω balanced AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT Phase adjustment Soft adjust 0.01 degree steps from front panel PILOT tone frequency 19 KHz PILOT tone deviation Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) <pre></pre>	MPX input impedance	5 KΩ selectable
L/R Input Impedance AES/EBU input resolution AES/EBU input sample rate 32,44.1,48,96 KHz Automatically selected AES/EBU input level -20 dBFS - 0 dBFS AES/EBU input impedance 110 Ω balanced AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT Phase adjustment Soft adjust 0.01 degree steps from front panel PILOT tone frequency 19 KHz PILOT tone deviation PILOT tone frequency stability THD+N (stereo/mono operation)	L/R input level	+15/-10 dBu for 75 KHz standard deviation
AES/EBU input resolution AES/EBU input sample rate AES/EBU input level AES/EBU input level AES/EBU input impedance AES/EBU input impedance AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment PILOT Phase adjustment PILOT tone frequency PILOT tone deviation PILOT tone frequency stability THD+N (stereo/mono operation) AES/EBU input impedance AES/EBU-Analog input automatic changeover Yes PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT tone frequency 19 KHZ PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation)	L/R level adjustment	Soft adjust 0.1 dBu steps from front panel
AES/EBU input sample rate AES/EBU input level AES/EBU input impedance AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment PILOT Phase adjustment PILOT tone frequency PILOT tone frequency stability PILOT tone frequency stability THD+N (stereo/mono operation) Pre-emphasis Pre-emphasis Pre-emphasis Pre-emphasis D/25/50/75 microseconds, selectable Pre-emphasis FM S/N (MPX operation) PM S/N CCIR (stereo/mono operation) AES/EBU input sample rate 32, 44.1,48,96 KHz Automatically selected 20 dBFS ABFS ABFS ABFS ASynchronous AM S/N unweighted 20, 06FS ABFS ASynchronous AM S/N unweighted 20, 0.95% with 100 KHz frequency deviation 30 Hz to 15 KHz 0/25/50/75 microseconds, selectable 4/- 0.1 dB 82 dB 20 Hz to 23 KHz 6 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB weighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis	L/R Input Impedance	Selectable 10 K - 600 Ω , balanced
AES/EBU input level -20 dBFS - 0 dBFS AES/EBU input impedance 110 Ω balanced AES/EBU-Analog input automatic changeover Yes PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT Phase adjustment Soft adjust 0.01 degree steps from front panel PILOT tone frequency 19 KHz PILOT tone deviation Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) <0.05% with 75 KHz frequency deviation <0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz Pre-emphasis 0/25/50/75 microseconds, selectable Pre-emphasis tolerance +/- 0.1 dB FM S/N (MPX operation) 82 dB 20 Hz to 23 KHz 0 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB weighted > = 72 dB unweighted Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis	AES/EBU input resolution	24 bits
AES/EBU input impedance AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment PILOT Phase adjustment PILOT tone frequency PILOT tone deviation PILOT tone frequency stability PILOT tone frequency stability THD+N (stereo/mono operation) Pre-emphasis Pre-emphasis Pre-emphasis tolerance Pre-emphasis tolerance Pre-emphasis tolerance Pre-emphasis tolerance Pre-Tyber Syn (MPX operation) ASYN CCIR (stereo/mono operation) ASYN CCIR (stereo/mon	AES/EBU input sample rate	32,44.1,48,96 KHz Automatically selected
AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT Phase adjustment Soft adjust 0.01 degree steps from front panel PILOT tone frequency 19 KHz PILOT tone deviation Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) <pre></pre>	AES/EBU input level	-20 dBFS - 0 dBFS
PILOT Amplitude adjustment PILOT Phase adjustment PILOT Phase adjustment PILOT tone frequency PILOT tone deviation PILOT tone frequency stability PILOT tone deviation Soft adjust 0.01 degree steps from front panel Soft adjust 0.01	AES/EBU input impedance	110 Ω balanced
PILOT Phase adjustment PILOT tone frequency PILOT tone deviation PILOT tone frequency stability PILOT tone frequency stability THD+N (stereo/mono operation) Pre-emphasis Pre-emphasis Pre-emphasis tolerance Pre-emphasis Pre-empha	AES/EBU-Analog input automatic changeover	Yes
PILOT tone frequency PILOT tone deviation Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) <pre></pre>	PILOT Amplitude adjustment	Soft adjust 0.05% steps from front panel
PILOT tone frequency PILOT tone deviation Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) <pre></pre>	PILOT Phase adjustment	Soft adjust 0.01 degree steps from front panel
PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) < 0.05% with 75 KHz frequency deviation < 0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz Pre-emphasis		19 KHz
THD+N (stereo/mono operation) <pre></pre>	PILOT tone deviation	Soft adjust +/- 7.5 KHz
THD+N (stereo/mono operation) <pre></pre>	PILOT tone frequency stability	
Pre-emphasis 0/25/50/75 microseconds, selectable Pre-emphasis tolerance +/- 0.1 dB FM S/N (MPX operation) 82 dB 20 Hz to 23 KHz @ 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis		< 0.05% with 100 KHz frequency deviation
Pre-emphasis tolerance +/- 0.1 dB FM S/N (MPX operation) 82 dB 20 Hz to 23 KHz 6 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis	Pre-emphasis	
FM S/N (MPX operation) 82 dB 20 Hz to 23 KHz 6 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis		
FM S/N CCIR (stereo/mono operation) > = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis		82 dB 20 Hz to 23 KHz
Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis	FM S/N CCIR (stereo/mono operation)	> = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation,
	Asynchronous AM S/N unweighted	

Amplitude-frequency characteristic	+/- 0.1 dB (without pre-emphasis)
(stereo/mono operation)	+/- 0.1 dB (with pre-emphasis)
- 1	20 Hz to 15 KHz, @ 400 Hz
Stereo Crosstalk	>60 dB
Linear crosstalk	@ 20 Hz to 15 KHz >60 db 20 Hz to 15 KHz
Intermodulation distortion	<0.05% Measured with two of tones 1 KHz & 1.3 KH ratio 1:1 at 100% modulation
Class of emission	F3
Stereo emission	According to ITU-R reccomendation 450 (pilot tone)
CITER PERFORMANCE	
PLL lock time	<10 sec
Frequency deviation	+/- 75 KHz 0.1 dB steps adjustable
Maximum frequency deviation	+/- 150 KHz
Frequency stability	1 ppm
RF Frequency steps	10 KHz
Phase Response	+/- 0.1 degree from linear phase; 20 KHz to 100 KHz
STALLATION REQUIREMENTS	
Power supply	110, 230 Two-Singlephase Version 50-60 Hz VAC
Power consumption (typical)	690 W
Current consumption (typical@230 V)	3 A
Overall efficiency (typical from -3 dB to Pnom)	> = 70%
Power factor	> 0.95
OLING/NOISE/DATA	
Cooling system	Forced air-cooling
Acoustic noise	< 65 phone @ transmitter room, 2 M distance from the front of the transmitter
VIRONMENT	
Temperature range (operating)	-5 ÷ +45 °C, 23 ÷ 113 °F
Temperature range (non operating)	-20 ÷ +55 °C, -4 ÷ 131 °F
Humidity range (operating)	95% @ 40 °C, 104 °F
Humidity range (non operating)	90% @ 55 °C, 131 °F
Altitude range (operating)	<3000 meters / <9840 Feet
Altitude range (non operating)	<15000 meters / < 49200 Feet
LECONTROL & TELEMETRY	
LECONTROL & TELEMETRI	
Remote control	Yes
	Yes Yes



GENERAL DATA	
Output Nominal Power	1000 W adjustable
Operating band	87.5 ÷ 108 MHz
RS232/RS485	Yes. Connector DB9 female
Points of measure	RF Sample - MPX Monitor
Displayed Parameters	More than 50 parameters displayed on a wide graphic 0-LED screen
Adjustments	From the frontal panel through OLED/from PC
Number of L-DMOS in amplifier stage	2
RF power stage technology	ICEFET & ECOSAVING
Dimensions: Rack units	2 RU
Dimensions: W - H - D	48.5 - 8.5 - 58.5 cm / 19.11 - 3.35 - 23.05 inches
Weight	13.2 Kg / 29.1 lbs
Number of cooling fans	3
CONNECTORS	
RF Output	7/16" DIN Female
MPX	BNC Female
LEFT & RIGHT	XLR Female
AES/EBU	XLR Female
AUX	BNC Female
Monitor/19 kHz	BNC Female
RF PERFORMANCE	
Output impedance	50 Ω
Automatic power RF control	Stabilizes the output power value to the Target power level selected
Overall output power RF stability	+/- 0,1 dB
VSWR	2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit.
Harmonics	< -75 dBc
Out of band emission (spurious)	< -80 dBc
AUDIO PERFORMANCE	
MPX input level	+15/-10 dBu for 75 KHz standard deviation
MPX level adjustment	Soft adjust 0.1 dB steps from front panel
MPX input impedance	5 KΩ selectable
L/R input level	+15/-10 dBu for 75 KHz standard deviation
L/R level adjustment	Soft adjust 0.1 dBu steps from front panel
L/R Input Impedance	Selectable 10 K - 600 Ω , balanced
AES/EBU input resolution	24 bits
AES/EBU input sample rate	32,44.1,48,96 KHz Automatically selected
AES/EBU input level	-20 dBFS - 0 dBFS
AES/EBU input impedance	110 Ω balanced
AES/EBU-Analog input automatic changeover	Yes
PILOT Amplitude adjustment	Soft adjust 0.05% steps from front panel
PILOT Phase adjustment	Soft adjust 0.01 degree steps from front panel
PILOT tone frequency	19 KHz
PILOT tone deviation	Soft adjust +/- 7.5 KHz
PILOT tone frequency stability	+/- 1 Hz
THD+N (stereo/mono operation)	< 0.05% with 75 KHz frequency deviation < 0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz
Pre-emphasis	0/25/50/75 microseconds, selectable
Pre-emphasis tolerance	+/- 0.1 dB
FM S/N (MPX operation)	82 dB 20 Hz to 23 KHz @ 53 KHz - detector RMS
FM S/N CCIR (stereo/mono operation)	> = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation,
Asymphosome AM C (N	quasi-peak detector, 50 us de-emphasis
Asynchronous AM S/N unweighted	> = 55 dB a 400 Hz, 75 us de-emphasis
Synchronous AM S/N	> = 50 dB a 400 Hz, 75 us de-emphasis

Amplitude-frequency characteristic	+/- 0.1 dB (without pre-emphasis)
(stereo/mono operation)	+/- 0.1 dB (with pre-emphasis) 20 Hz to 15 KHz, @ 400 Hz
Stereo Crosstalk	>60 dB
Stereo Crosstaik	@ 20 Hz to 15 KHz
Linear crosstalk	>60 db 20 Hz to 15 KHz
Intermodulation distortion	<0.05% Measured with two of tones 1 KHz & 1.3 KHz,
THE CHING GET CELON	ratio 1:1 at 100% modulation
Class of emission	F3
Stereo emission	According to ITU-R reccomendation 450 (pilot tone)
XCITER PERFORMANCE	
PLL lock time	<10 sec
Frequency deviation	+/- 75 KHz 0.1 dB steps adjustable
Maximum frequency deviation	+/- 150 KHz
Frequency stability	1 ppm
RF Frequency steps	10 KHz
Phase Response	+/- 0.1 degree from linear phase; 20 KHz to 100 KHz
NSTALLATION REQUIREMENTS	
Power supply	230 Singlephase Version 50-60 Hz VAC
Power consumption (typical)	1430 W
Current consumption (typical@230 V)	6.2 A
Overall efficiency (typical from -3 dB to Pnom)	> = 70%
Power factor	> 0.95
OOLING/NOISE/DATA	
Cooling system	Forced air-cooling
Acoustic noise	< 65 phone @ transmitter room, 2 M distance from the front of the transmitter
NVIRONMENT	
Temperature range (operating)	-5 ÷ +45 °C, 23 ÷ 113 °F
Temperature range (non operating)	-20 ÷ +55 °C, -4 ÷ 131 °F
Humidity range (operating)	95% @ 40 °C, 104 °F
Humidity range (non operating)	90% @ 55 °C, 131 °F
Altitude range (operating)	<3000 meters / <9840 Feet
Altitude range (non operating)	<15000 meters / < 49200 Feet
ELECONTROL & TELEMETRY	
Remote control	Yes
Remote control, dry contacts	Yes
SNMP option	Yes (external)



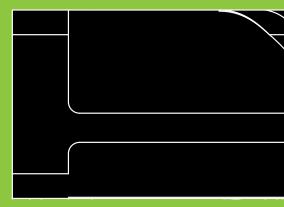
Output Nominal Power Operating band RS232/RS485 Yes. Connector DB9 female Points of measure Points of measure RF Sample - MPX Monitor Displayed Parameters More than 50 parameters displayed on a wide graphic 0-LED screen Adjustments From the frontal panel through OLED/from PC Number of L-DMOS in amplifier stage RF power stage technology Dimensions: Rack units 2 RU Dimensions: W - H - D 48.5 - 8.5 - 58.5 cm / 19.11 - 3.35 - 23.05 inche Weight 13.2 Kg / 29.1 lbs Number of cooling fans 3 CONNECTORS RF Output 7/16" DIN Female MPX BNC Female LEFT & RIGHT ALS/EBU AUX BNC Female AUX BNC Fema		
Operating band 87.5 * 198 MHz RS232/RS485 Yes. Connector DB9 female POINTS of measure RF Sample - MPX monitor Displayed Parameters More than 50 parameters displayed on a wide graphic 0-LED screen Adjustments From the Frontal panel through OLED/from PC Number of L-DMOS in amplifier stage 2 RF power stage technology ICEFET & ECOSAVING Dimensions: W - H - D 48.5 - 8.5 - 58.5 cm / 19.11 - 3.35 - 23.05 inch weight Number of cooling fans 3 OMNECTORS 7/16" DIN Female MFO ULDUL 7/16" DIN Female MPX BNC Female LEFT & REGHT XLR Female ALS FEBU XLR Female ALI FEMALE ALI FEMALE MONITOR /19 kHz BNC Female FF PERFORMANCE BNC Female VSWR	GENERAL DATA	
RS232/RS485 Yes. Connector DBB female		
Points of measure Displayed Parameters More than 50 parameters displayed on a wide graphic 0-LED screen Adjustments From the Trontal panel through OLED/from PC Number of L-DMOS in amplifier stage RF power stage technology Dimensions: Mac units REW Dimensions: Mac units RF Sulp Dimensions: Mac units RF Su		
Displayed Parameters		
Graphic 0-LED screen		·
Number of L-DMOS in amplifier stage 2	Displayed Parameters	
RF power stage technology IGEFET & ECOSAVING	Adjustments	From the frontal panel through OLED/from PC
Dimensions: Rack units 2 P. RU Dimensions: W - H - D	Number of L-DMOS in amplifier stage	2
Dimensions: W - H - D	RF power stage technology	ICEFET & ECOSAVING
Weight 13.2 Kg / 29.1 lbs	Dimensions: Rack units	2 RU
Number of cooling fans ONNECTORS RF Output MRY BNC Female AES/EBU ALIX BNC Female Output impedance Output impedance AC ST BBC Overall output power RF control Stabilizes the output power value to the Target power level selected Overall output power RF stability VSWR 2:: at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) WDIO PERFORMANCE MPX input level MPX input level MPX input impedance L/R input impedance L/R input impedance L/R input impedance L/R input impedance ES/EBU input sample rate AES/EBU input sample rate AES/EBU input impedance AES/EBU input impe	Dimensions: W - H - D	48.5 - 8.5 - 58.5 cm / 19.11 - 3.35 - 23.05 inche
RP Output 77/16" DIN Female MPX BNC Female LEFT & RIGHT XLR Female AES/EBU XLR Female AUX BNC Female Output impedance Automatic power RF control Output impedance Output impedance Automatic power RF stability VSWR Summary	Weight	13.2 Kg / 29.1 lbs
RF Output 7/16" DIN Female MPX BNC Female LEFT & RIGHT XLR Female AES/EBU XLR Female AUX BNC Female AUX BNC Female AUX BNC Female MONITOR/19 kHz BNC Female Output impedance Automatic power RF control Overall output power RF stability VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) VSWR 2:1 at full power. Automatic power reduction step sep from front panel PK input level +15/-10 dBu for 75 kHz standard deviation FWX input impedance Soft adjust 0.1 dBu steps from front panel L/R input impedance AES/EBU input resolution 24 bits AES/EBU input resolution 24 bits AES/EBU input sample rate AES/EBU input sample rate AES/EBU input sample rate AES/EBU input automatic changeover PILOT Amplitude adjustment Soft adjust 0.10 degree steps from front panel PK input impedance 110 po balanced AES/EBU input input automatic changeover Yes PILOT tone frequency 110 kHz PILOT tone deviation Soft adjust 0.1 degree steps from front pan	Number of cooling fans	3
MPX BNC Female LEFT & RIGHT XLR Female ALIX BNC Female ALIX BNC Female ALIX BNC Female ALIX BNC Female Nontor/19 kHz BNC Female Output impedance Automatic power RF control Output impedance Automatic power RF control Overall output power RF stability VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) VSWR MPX input level MPX input level MPX input level MPX input impedance LR input level LR input sample rate AES/EBU input resolution AES/EBU input resolution AES/EBU input level AES/EBU input level AES/EBU input level AES/EBU input level TR input level AES/EBU input level A	CONNECTORS	
LEFT & RIGHT XLR Female AES/EBU XLR Female MONITOR/19 kHz BNC Female Monitor/19 kHz BNC Female FF PERFORMANCE Output impedance 50 Ω Automatic power RF control Stabilizes the output power value to the Target power level selected Overall output power RF stability +/- 0,1 dB VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics < -75 dBc Out of band emission (spurious) < -80 dBc MDIO PERFORMANCE MPX input level MPX input level 3 djustment Soft adjust 0.1 dB steps from front panel MPX level adjustment Soft adjust 0.1 dB steps from front panel L/R input impedance 5 kΩ selectable L/R input impedance Selectable L/R input Impedance Selectable 10 K - 600 Ω, balanced AES/EBU input resolution 24 bits AES/EBU input sample rate 32,44.1,48,96 KHz Automatically selected AES/EBU input impedance 110 Ω balanced AES/EBU input impedance 110 Ω balanced AES/EBU-Analog input automatic changeover Yes PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT Phase adjustment Soft adjust 0.05% steps from front panel PILOT tone frequency 19 kHz PILOT tone deviation Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) Soft adjust +/- 7.5 KHz FPC-emphasis 0.255/50/75 microseconds, selectable PFC-emphasis tolerance +/- 0.1 dB FM S/N (MPX operation) 82 dB 20 Hz to 23 KHz 0.55 kHz detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB unweighted 409 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis	RF Output	7/16" DIN Female
ALIX AUX BNC Female Monitor/19 kHz FPERFORMANCE Output impedance Automatic power RF control Overall output power RF stability VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) WEX 1901	MPX	BNC Female
AUX BNC Female Monitor/19 kHz BFPERFORMANCE Output impedance Automatic power RF control Overall output power RF stability VSWR Coverall output power RF stability VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) VSWB WIDIO PERFORMANCE WIDIO PERFORMANCE INFA input level MPX input level MPX input impedance L/R input level L/R input level L/R input level L/R input Impedance L/R input mapedance L/R input mapedance ESS/EBU input asmple rate AES/EBU input sample rate AES/EBU input impedance AES/EBU input impedance AES/EBU input impedance AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment PILOT Amplitude adjustment Soft adjust 0.01 degree steps from front panel PILOT tone frequency PILOT tone frequency PILOT tone frequency stability PILOT tone frequency deviation	LEFT & RIGHT	XLR Female
Monitor/19 kHz BNC Female	AES/EBU	XLR Female
Output impedance 50 Ω Automatic power RF control Stabilizes the output power value to the Target power level selected Overall output power RF stability +/- 0,1 dB VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short carcuit. Harmonics < -75 dBC	AUX	BNC Female
Output impedance 50 Ω Automatic power RF control Stabilizes the output power value to the Target power level selected Overall output power RF stability +/- 0,1 dB VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics < -75 dBc	Monitor/19 kHz	BNC Female
Automatic power RF control Overall output power RF stability VSWR VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics Out of band emission (spurious) WDIO PERFORNANCE MPX input level MPX input level MPX input level MPX input level L/R input level L/R input level L/R input level L/R input level MPX input level L/R input level MPX input level L/R input level MPX input impedance L/R input impedance MPX input impedance MES/EBU input resolution AES/EBU input resolution AES/EBU input input ample rate AES/EBU input impedance AES/EBU input impedance AES/EBU input impedance AES/EBU input impedance AES/EBU input level -20 dBFS - 0 dBFS AES/EBU input impedance AES/EBU-Analog input automatic changeover PICOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT Phase adjustment Soft adjust 0.05% steps from front panel PILOT one frequency PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) 82 dB 9/ES/EBO/FS microseconds, selectable Pre-emphasis Pre-emphasis Pre-emphasis D/ES/EBO/FS microseconds, selectable Pre-emphasis FM S/N (MPX operation) 82 dB 90 Hz to 23 KHz 0 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB weighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis	RF PERFORMANCE	
Dower level selected	Output impedance	50 Ω
VSWR 2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics < -75 dBc	Automatic power RF control	
beyond 1.7:1. Transmitter is protected fro open and short circuit. Harmonics < -75 dBc Out of band emission (spurious) < -80 dBc NPX input level MPX input level +15/-10 dBu for 75 KHz standard deviation MPX level adjustment Soft adjust 0.1 dB steps from front panel MPX input impedance 5 KΩ selectable L/R input level +15/-10 dBu for 75 KHz standard deviation MPX input impedance 5 KΩ selectable L/R input level +15/-10 dBu for 75 KHz standard deviation L/R level adjustment Soft adjust 0.1 dBu steps from front panel L/R input Impedance Selectable 10 K - 600 Ω, balanced AES/EBU input resolution 24 bits AES/EBU input sample rate 32,44.1,48,96 KHz Automatically selected AES/EBU input impedance 110 Ω balanced AES/EBU-Analog input automatic changeover Yes PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT those deviation Soft adjust 0.01 degree steps from front panel PILOT tone frequency 19 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) < 0.05% with 75 KHz frequency deviation Soft adjust +/- 7.5 KHz Pre-emphasis 0/25/50/75 microseconds, selectable Pre-emphasis tolerance +/- 0.1 dB FM S/N (MPX operation) 82 dB 20 Hz to 23 KHz € 53 KHz € 57 KHz €	Overall output power RF stability	+/- 0,1 dB
Out of band emission (spurious) VERFORMANCE MPX input level MPX input level MPX input impedance L/R input level L/R input level L/R input level L/R input level L/R input impedance L/R input impedance Selectable L/R input impedance Selectable 10 K - 600 Ω, balanced AES/EBU input resolution AES/EBU input impedance I10 Ω balanced AES/EBU input impedance AES/EBU input impedance I10 Ω balanced AES/EBU input impedance AES/EBU input impedance I10 Ω balanced AES/EBU input impedance AES/EBU input impedance I10 Ω balanced AES/EBU input impedance AES/EBU input impedance I10 Ω balanced AES/EBU input impedance AES/EBU input impedance I10 Ω balanced AES/EBU input impedance AES/EBU input impedance I10 Ω balanced AES/EBU input impedance AES/EBU input impedance I10 Ω balanced AES/EBU input impedance AES/EBU input impedance I10 Ω balanced AES/EBU input impedance AES/EBU input impedance I10 Ω balanced AES/EBU input impedance AES/EBU input impedance I10 Ω balanced AES/EBU input impedance I10	VSWR	beyond 1.7:1. Transmitter is protected fro open
MPX input level	Harmonics	< -75 dBc
MPX input level	Out of band emission (spurious)	< -80 dBc
MPX level adjustment MPX input impedance L/R input level L/R input level L/R level adjustment Soft adjust 0.1 dB steps from front panel MPX input impedance L/R input level H15/-10 dBu for 75 KHz standard deviation L/R level adjustment Soft adjust 0.1 dBu steps from front panel L/R input Impedance Selectable 10 K - 600 Ω, balanced AES/EBU input resolution AES/EBU input sample rate AES/EBU input impedance AES/EBU input impedance AES/EBU input impedance AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT tone frequency PILOT tone frequency PILOT tone frequency 19 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) Verenthalis Pre-emphasis 0/25/50/75 microseconds, selectable Pre-emphasis tolerance +/- 0.1 dB FM S/N (MPX operation) EM S/N CCIR (stereo/mono operation) Asynchronous AM S/N unweighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis	AUDIO PERFORMANCE	
MPX input impedance 5 KΩ selectable L/R input level +15/-10 dBu for 75 KHz standard deviation L/R level adjustment Soft adjust 0.1 dBu steps from front panel L/R Input Impedance Selectable 10 K - 600 Ω, balanced AES/EBU input resolution 24 bits AES/EBU input sample rate 32,44.1,48,96 KHz Automatically selected AES/EBU input level -20 dBFS - 0 dBFS AES/EBU input impedance 110 Ω balanced AES/EBU-Analog input automatic changeover Yes PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT tone frequency 19 KHz PILOT tone deviation Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) <0.05% with 75 KHz frequency deviation <0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz Pre-emphasis tolerance +/- 0.1 dB FM S/N (MPX operation) 82 dB 20 Hz to 23 KHz @ 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB weighted > = 72 dB unweighted Aesynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis	MPX input level	+15/-10 dBu for 75 KHz standard deviation
L/R input level	MPX level adjustment	Soft adjust 0.1 dB steps from front panel
L/R level adjustment L/R Input Impedance Selectable 10 K - 600 Ω, balanced AES/EBU input resolution AES/EBU input sample rate 32,44.1,48,96 KHz Automatically selected AES/EBU input level -20 dBFS - 0 dBFS AES/EBU input impedance 110 Ω balanced AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT Phase adjustment Soft adjust 0.01 degree steps from front panel PILOT tone frequency 19 KHz PILOT tone deviation Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) <	MPX input impedance	5 KΩ selectable
L/R Input Impedance AES/EBU input resolution AES/EBU input sample rate 32,44.1,48,96 KHz Automatically selected AES/EBU input level -20 dBFS - 0 dBFS AES/EBU input impedance AES/EBU input impedance AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT Phase adjustment Soft adjust 0.01 degree steps from front panel PILOT tone frequency PILOT tone deviation PILOT tone frequency stability THD+N (stereo/mono operation) Soft adjust +/- 7.5 KHz Pre-emphasis 0/25/50/75 microseconds, selectable Pre-emphasis tolerance +/- 0.1 dB FM S/N (MPX operation) B2 dB 20 Hz to 23 KHz © 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB weighted > = 72 dB unweighted AES/EBU input resolution (ausi-peak detector, 50 us de-emphasis) Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis	L/R input level	+15/-10 dBu for 75 KHz standard deviation
AES/EBU input resolution AES/EBU input sample rate 32,44.1,48,96 KHz Automatically selected AES/EBU input level -20 dBFS - 0 dBFS AES/EBU input impedance 110 Ω balanced AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT Phase adjustment Soft adjust 0.01 degree steps from front panel PILOT tone frequency PILOT tone deviation Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) Co.05% with 75 KHz frequency deviation Co.05% with 100 KHz freque	L/R level adjustment	Soft adjust 0.1 dBu steps from front panel
AES/EBU input sample rate AES/EBU input level AES/EBU input impedance AES/EBU input impedance AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment PILOT Phase adjustment PILOT tone frequency PILOT tone frequency PILOT tone deviation PILOT tone frequency stability THD+N (stereo/mono operation) Pre-emphasis	L/R Input Impedance	Selectable 10 K - 600 Ω , balanced
AES/EBU input level -20 dBFS - 0 dBFS AES/EBU input impedance 110 Ω balanced AES/EBU-Analog input automatic changeover Yes PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT Phase adjustment Soft adjust 0.01 degree steps from front panel PILOT tone frequency 19 KHz PILOT tone deviation Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) <0.05% with 75 KHz frequency deviation <0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz Pre-emphasis 0/25/50/75 microseconds, selectable Pre-emphasis tolerance +/- 0.1 dB FM S/N (MPX operation) 82 dB 20 Hz to 23 KHz ② 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) >= 72 dB weighted >= 72 dB weighted >= 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis	AES/EBU input resolution	24 bits
AES/EBU input impedance AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment PILOT Phase adjustment PILOT tone frequency PILOT tone frequency PILOT tone deviation PILOT tone frequency stability PILOT tone frequency deviation (0.05% with 75 KHz frequency deviation (0.05% with 100 KHz frequency de	AES/EBU input sample rate	32,44.1,48,96 KHz Automatically selected
AES/EBU-Analog input automatic changeover PILOT Amplitude adjustment Soft adjust 0.05% steps from front panel PILOT Phase adjustment Soft adjust 0.01 degree steps from front panel PILOT tone frequency 19 KHz PILOT tone deviation Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) <pre></pre>	AES/EBU input level	-20 dBFS - 0 dBFS
PILOT Amplitude adjustment PILOT Phase adjustment PILOT Phase adjustment PILOT tone frequency PILOT tone deviation PILOT tone frequency stability PILOT tone frequency deviation Soft adjust 0.01 degree steps from front panel BY KHZ PILOT tone frequency deviation AN BY NUMPX operation) Soft adjust 0.01 degree steps from front panel FM S KHZ FM S/N KHZ frequency deviation PILOT tone f	AES/EBU input impedance	110 Ω balanced
PILOT Phase adjustment PILOT tone frequency PILOT tone deviation PILOT tone frequency 19 KHz PILOT tone frequency stability PILOT tone frequency stability THD+N (stereo/mono operation) Pre-emphasis Pre-emphasis Pre-emphasis Pre-emphasis tolerance Pre-emphasis		
PILOT tone frequency PILOT tone deviation Soft adjust +/- 7.5 KHz PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) <pre></pre>	,	
PILOT tone deviation PILOT tone frequency stability H/- 1 Hz THD+N (stereo/mono operation) C 0.05% with 75 KHz frequency deviation C 0.05% with 100 KHz frequency deviation B Hz to 15 KHz Pre-emphasis O/25/50/75 microseconds, selectable Pre-emphasis tolerance H/- 0.1 dB FM S/N (MPX operation) 82 dB 20 Hz to 23 KHz D 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis	PILOT Phase adjustment	Soft adjust 0.01 degree steps from front panel
PILOT tone frequency stability +/- 1 Hz THD+N (stereo/mono operation) < 0.05% with 75 KHz frequency deviation < 0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz Pre-emphasis		
THD+N (stereo/mono operation) <pre></pre>		
<pre></pre>	PILOT tone frequency stability	
Pre-emphasis tolerance +/- 0.1 dB FM S/N (MPX operation) 82 dB 20 Hz to 23 KHz © 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis	THD+N (stereo/mono operation)	< 0.05% with 100 KHz frequency deviation
FM S/N (MPX operation) 82 dB 20 Hz to 23 KHz © 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis	Pre-emphasis	0/25/50/75 microseconds, selectable
20 Hz to 23 KHz @ 53 KHz - detector RMS FM S/N CCIR (stereo/mono operation) > = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted > = 55 dB a 400 Hz, 75 us de-emphasis	Pre-emphasis tolerance	+/- 0.1 dB
FM S/N CCIR (stereo/mono operation) >= 72 dB weighted >= 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis Asynchronous AM S/N unweighted >= 55 dB a 400 Hz, 75 us de-emphasis	FM S/N (MPX operation)	20 Hz to 23 KHz
	FM S/N CCIR (stereo/mono operation)	> = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation,
Synchronous AM S/N > = 50 dB a 400 Hz, 75 us de-emphasis	Asynchronous AM S/N unweighted	> = 55 dB a 400 Hz, 75 us de-emphasis
	Synchronous AM S/N	> = 50 dB a 400 Hz, 75 us de-emphasis

Amplitude-frequency characteristic	+/- 0.1 dB (without pre-emphasis)
(stereo/mono operation)	+/- 0.1 dB (with pre-emphasis) 20 Hz to 15 KHz, @ 400 Hz
Stereo Crosstalk	>60 dB
	@ 20 Hz to 15 KHz
Linear crosstalk	>60 db 20 Hz to 15 KHz
Intermodulation distortion	<0.05% Measured with two of tones 1 KHz & 1.3 KHz ratio 1:1 at 100% modulation
Class of emission	F3
Stereo emission	According to ITU-R reccomendation 450 (pilot tone)
XCITER PERFORMANCE	
PLL lock time	<10 sec
Frequency deviation	+/- 75 KHz 0.1 dB steps adjustable
Maximum frequency deviation	+/- 150 KHz
Frequency stability	1 ppm
RF Frequency steps	10 KHz
Phase Response	+/- 0.1 degree from linear phase; 20 kHz to 100 kHz
NSTALLATION REQUIREMENTS	
Power supply	230 Singlephase Version 50-60 Hz VAC
Power consumption (typical)	2000 W
Current consumption (typical@230 V)	8.7 A
Overall efficiency (typical from -3 dB to Pnom)	> = 70%
Power factor	> 0.95
OOLING/NOISE/DATA	
Cooling system	Forced air-cooling
Acoustic noise	< 65 phone @ transmitter room, 2 M distance from the front of the transmitter
NVIRONMENT	
Temperature range (operating)	-5 ÷ +45 °C, 23 ÷ 113 °F
Temperature range (non operating)	-20 ÷ +55 °C, -4 ÷ 131 °F
Humidity range (operating)	95% @ 40 °C, 104 °F
Humidity range (non operating)	90% @ 55 °C, 131 °F
Altitude range (operating)	<3000 meters / <9840 Feet
Altitude range (non operating)	<15000 meters / < 49200 Feet
ELECONTROL & TELEMETRY	
Remote control	Yes
Remote control, dry contacts	Yes
SNMP option	Yes (external)



GENERAL DATA	
Output Nominal Power	2000 W adjustable
Operating band	87.5 ÷ 108 MHz
RS232/RS485	Yes. Connector DB9 female
Points of measure	RF Sample - MPX Monitor
Displayed Parameters	More than 50 parameters displayed on a wide graphic 0-LED screen
Adjustments	From the frontal panel through OLED/from PC
Number of L-DMOS in amplifier stage	3
RF power stage technology	ICEFET & ECOSAVING
Dimensions: Rack units	2 RU
Dimensions: W - H - D	48.5 - 8.5 - 58.5 cm / 19.11 - 3.35 - 23.05 inches
Weight	13.2 Kg / 29.1 lbs
Number of cooling fans	3
CONNECTORS	
RF Output	7/16" DIN Female
MPX	BNC Female
LEFT & RIGHT	XLR Female
AES/EBU	XLR Female
AUX	BNC Female
Monitor/19 kHz	BNC Female
RF PERFORMANCE	
Output impedance	50 Ω
Automatic power RF control	Stabilizes the output power value to the Target power level selected
Overall output power RF stability	+/- 0,1 dB
VSWR	2:1 at full power. Automatic power reduction beyond 1.7:1. Transmitter is protected fro open and short circuit.
Harmonics	< -75 dBc
Out of band emission (spurious)	< -80 dBc
AUDIO PERFORMANCE	
MPX input level	+15/-10 dBu for 75 KHz standard deviation
MPX level adjustment	Soft adjust 0.1 dB steps from front panel
MPX input impedance	5 K Ω selectable
L/R input level	+15/-10 dBu for 75 KHz standard deviation
L/R level adjustment	Soft adjust 0.1 dBu steps from front panel
L/R Input Impedance	Selectable 10 K - 600 Ω , balanced
AES/EBU input resolution	24 bits
AES/EBU input sample rate	32,44.1,48,96 KHz Automatically selected
AES/EBU input level	-20 dBFS - 0 dBFS
AES/EBU input impedance	110 Ω balanced
AES/EBU-Analog input automatic changeover	Yes
PILOT Amplitude adjustment	Soft adjust 0.05% steps from front panel
PILOT Phase adjustment	Soft adjust 0.01 degree steps from front panel
PILOT tone frequency	19 KHz
PILOT tone deviation	Soft adjust +/- 7.5 KHz
PILOT tone frequency stability	+/- 1 Hz
THD+N (stereo/mono operation)	< 0.05% with 75 KHz frequency deviation < 0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz
Pre-emphasis	0/25/50/75 microseconds, selectable
Pre-emphasis tolerance	+/- 0.1 dB
FM S/N (MPX operation)	82 dB 20 Hz to 23 KHz @ 53 KHz - detector RMS
FM S/N CCIR (stereo/mono operation)	> = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation,
Acunchronous AM C/N	quasi-peak detector, 50 us de-emphasis
Asynchronous AM S/N unweighted	> = 55 dB a 400 Hz, 75 us de-emphasis
Synchronous AM S/N	> = 50 dB a 400 Hz, 75 us de-emphasis

Amplitude-frequency characteristic	+/- 0.1 dB (without pre-emphasis)
(stereo/mono operation)	+/- 0.1 dB (with pre-emphasis) 20 Hz to 15 KHz, @ 400 Hz
Stereo Crosstalk	>60 dB
Stereo Crosstaik	@ 20 Hz to 15 KHz
Linear crosstalk	>60 db 20 Hz to 15 KHz
Intermodulation distortion	<0.05% Measured with two of tones 1 KHz & 1.3 KHz,
THE CHING GET CELON	ratio 1:1 at 100% modulation
Class of emission	F3
Stereo emission	According to ITU-R reccomendation 450 (pilot tone)
XCITER PERFORMANCE	
PLL lock time	<10 sec
Frequency deviation	+/- 75 KHz 0.1 dB steps adjustable
Maximum frequency deviation	+/- 150 KHz
Frequency stability	1 ppm
RF Frequency steps	10 KHz
Phase Response	+/- 0.1 degree from linear phase; 20 KHz to 100 KHz
NSTALLATION REQUIREMENTS	
Power supply	230 Singlephase Version 50-60 Hz VAC
Power consumption (typical)	2700 W
Current consumption (typical@230 V)	11.7 A
Overall efficiency (typical from -3 dB to Pnom)	> = 70%
Power factor	> 0.95
OOLING/NOISE/DATA	
Cooling system	Forced air-cooling
Acoustic noise	< 65 phone @ transmitter room, 2 M distance from the front of the transmitter
NVIRONMENT	
Temperature range (operating)	-5 ÷ +45 °C, 23 ÷ 113 °F
Temperature range (non operating)	-20 ÷ +55 °C, -4 ÷ 131 °F
Humidity range (operating)	95% @ 40 °C, 104 °F
Humidity range (non operating)	90% @ 55 °C, 131 °F
Altitude range (operating)	<3000 meters / <9840 Feet
Altitude range (non operating)	<15000 meters / < 49200 Feet
ELECONTROL & TELEMETRY	
Remote control	Yes
Remote control, dry contacts	Yes
SNMP option	Yes (external)





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