

Pulsar MKII (DK) – TV Modulator

Description

The Pulsar MKII (DK) device is a TV modulator used to convert baseband audio and video signals into RF output signals ready to go into your cable network.

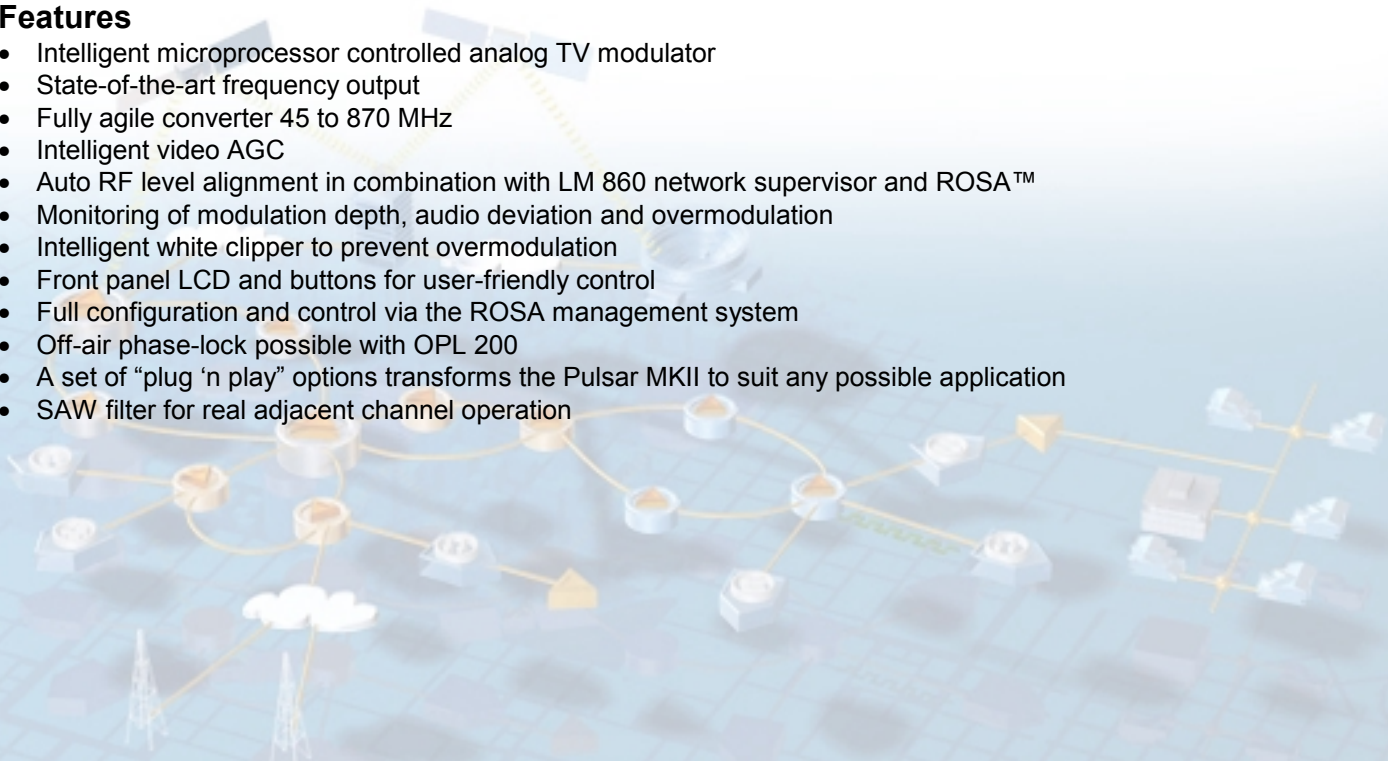
The Pulsar MKII Modulator is one of the first intelligent TV modulators in the world. Thanks to its built-in Intelligence, all of the parameters important in a Modulator etc., can be remote controlled.

Typical applications are in those cable TV distribution Systems where unsurpassed reliability, zero maintenance and excellent price/performance ratio are of the highest priority.



Features

- Intelligent microprocessor controlled analog TV modulator
- State-of-the-art frequency output
- Fully agile converter 45 to 870 MHz
- Intelligent video AGC
- Auto RF level alignment in combination with LM 860 network supervisor and ROSA™
- Monitoring of modulation depth, audio deviation and overmodulation
- Intelligent white clipper to prevent overmodulation
- Front panel LCD and buttons for user-friendly control
- Full configuration and control via the ROSA management system
- Off-air phase-lock possible with OPL 200
- A set of “plug ‘n play” options transforms the Pulsar MKII to suit any possible application
- SAW filter for real adjacent channel operation



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Specifications

Interface Specifications	
Video inputs	
Connector	BNC, 75Ω
Level	1 Vpp (+/- 5 dB)
Return loss	≥ 0 dB
Audio inputs	
Connector	Screw terminal on quick-disconnect-plug
Level	-10 to 10 dBm for 50 kHz deviation
Impedance	600 / 10
	Balanced or unbalanced
RF output	
Connector	BNC, 75 Ω (f-type optional)
Return loss (in channel)	> 12 dB
Frequency	45 to 870 MHz
Level	50 to 61 dBmV
RF test point	Output level –20 dB +/- 0.5
Amplitude response	< 0.5 dB for fv –0.5 / fv +4.75 MHz
	< -2 dB for fv –0.75 / fv +5 MHz
Phase noise	> 105 dBc/Hz 20 kHz offset
Harmonics & spurious	≥ 63 dB
C/N	
- 5 MHz BW	≥ 71 dBc
- 5 MHz BW – 80 channels	≥ 63 dBc
S/V ratio	-15 dB nom, adjustable between
	-10 dB and –20 dB
RF mute isolation	> 70 dB
Composite IF loop	
Connector	BNC, 75 Ω (F-type optional)
Return loss	≥ 18 dB
Level	40 dBmV
Remote control	
Connector	9-pins Sub D
Interface type	RS485

Typical Signal Specifications	
Audio	F3
Type of modulation	0.5 dB (between 30 Hz to 15 kHz)
Amplitude response	≤ 0.5 %
Distortion at 50 kHz dev.	≥ 65 dB
S/N at 50 kHz dev.	
Video	
DC restoration	Sync tip or backporch
Luminance bar amp.	≤ ± 1 %
K2T	≤ ± 2 %
Luminance non lin.	≤ ± 1 %
Chrom. Lum. Delay	≤ ± 25 ns
In band group delay tolerance	≤ ± 35 ns
Chrom. Lum. Intermod.	≤ ±- 1 %
Differential gain	≤ ± 1 %
Differential phase	≤ ± 1°
Video S/N	≥ 68 dB

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Specifications - continued

Option Related Specifications	
IF loops (vision before SAW and sound IF loop)	
Connector	F-type, 75 Ω
Input & output levels	IFv : 46 dBmV
	IFs : 34 dBmV
Aux IF input	
Connector	BNC, 75 Ω (F-type optional)
Return loss	≥ 18 dB
Input level	30 to 45 dBmV (AGC)
Switching	Manual or automatic
Intercarrier input	
Connector	BNC, 75 Ω
Return loss	≥ 20 dB
Input level	37 to 50 dBmV (AGC)
Main scrambled, Aux unscrambled video input	
Coupling	
- main	DC coupled
- aux	AC coupled and clamped
DC input level range	
- main	Backporch at +/- 0.5 V
- aux	Not relevant

Options	
Second A/V input with automatic fall-back capabilities	
Auxiliary composite IF input with AGC	
IRT two carrier stereo encode	
Sound and vision IF loops for scrambling interface	
Main scrambled, Aux unscrambled video input	
IF vision carrier reference input	
Separate sound and vision IF outputs for application in transmitters	
Phase-lock capability for HRC and IRC applications	
- 48 V power supply	
Inter-carrier input with AGC	
Reference carrier output (10 MHz)	
Data line decoder	

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Specifications - continued

Environmental Specifications	
Operating temperature	+0°F tot +113°F (0° to 45°C)
Storage temperature	-4°F to +158°F (-20° to 70°C)
Power supply (nominal)	115 or 230 VAC +/- 10 % 48 to 62 Hz
Power consumption (nominal)	Approx. 40 W

Mechanical Specifications	
Height	10.3 in. / 262 mm
Width	19" / 482 mm
Depth	18.5" / 470 mm
Weight	Approx. 12 lbs / 5.4 kg



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