Headend Systems

Pulsar MKII™ (DK) – TV Modulator

Description

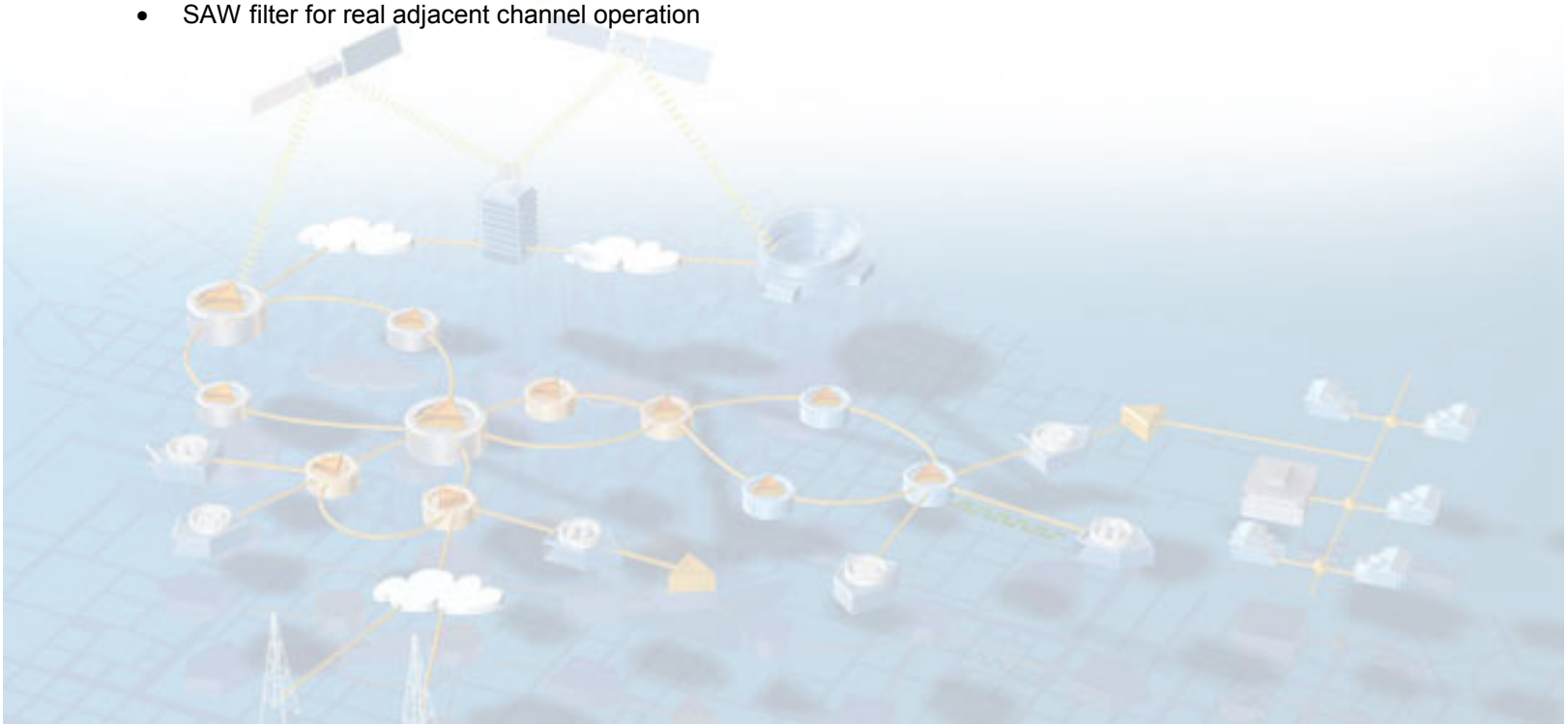
The Pulsar MKII™ (DK) device is a TV modulator used to convert baseband audio and video signals into RF output signals ready to go into your cable network.

Thanks to built-in intelligence, all of its important parameters can be remotely controlled.

Typical applications are in those cable TV distribution systems where high reliability, low 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
- Full configuration and control via the ROSA™ Network Management System (NMS)
- Auto RF level alignment in combination with Scientific-Atlanta's LM 860™ network supervisor and ROSA NMS
- Monitoring of modulation depth, audio deviation and over-modulation
- Intelligent white clipper to prevent over-modulation
- Front panel LCD and buttons for user-friendly control
- A set of "plug 'n play" options transforms the Pulsar MKII TV Modulator to suit any possible application
- SAW filter for real adjacent channel operation



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Specifications

Interface Specifications	
Video inputs	
Connector	BNC, 75 Ω
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 Ω / 10 Ω
	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	RS-485

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Specifications - continued

Typical Signal Specifications	
Audio	
Type of modulation	F3
Amplitude response	0.5 dB (between 30 Hz to 15 kHz)
Distortion at 50 kHz dev.	≤ 0.5%
S/N at 50 kHz dev.	≥ 65 dB
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

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
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

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Specifications - continued

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

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

Mechanical Specifications	
Height	1 RU
Width	19 in. / 482 mm
Depth	18.5 in. / 470 mm
Weight	Approx. 12 lbs / 5.4 kg

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