



MINI TRAPS and FILTERS



969 Horsham Road
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EAGLEeliteä SERIES Notch Filters, Tier Traps, and Noise Suppression Filters



Pay Television Single Channel Notch Filters

**EMN Negative Traps
EMD Positive Traps**

Negative traps block the video signal from entering the subscriber's home. Positive traps decode a scrambled channel. Negative and positive traps are the world's most widely accepted method for pay television security.

Single Channel Notch Features

- Small size (1.965") for easier installation in small lockboxes and distribution panels
- Wide range of frequencies available with performance levels up to 1 GHz
- Very low adjacent channel insertion loss
- Special, patented circuits provide superior selectivity for narrow bandwidth
- Extraordinary environmental stability due to patented dome seal, patented double "D" outer shield, and technically superior dual O-ring seals
- Cost effective, economical channel security with Eagle reliability

Pay Television Multi Channel Tier Traps

**8 Pole: 8MLP, 8MNF, 8MHP
10 Pole: 10MLP, 10MNF, 10MHP**

Multi-channel tier traps are becoming increasingly more popular to selectively control, block or access groups (tiers) of pay television channels. Traps are designed to meet a cable operator's specific requirements and are available in band reject (NF), lowpass (LP), and highpass (HP) styles.

Multi Channel Tier Trap Features

- Small size (2.965" for 8 pole traps, 3.465" for 10 pole traps) for easier installation in small lockboxes and distribution panels
- Wide range of frequencies available with performance levels up to 1 GHz
- Sharper band selectivity for reduced filter guardband, especially at higher frequencies (for many applications the filters can attenuate a pay tier without losing any channels in the guard band)
- Improved attenuation across wider reject bands permitting

- wider pay tier channel groupings
- 10M models offer lifeline combination of NF and LP filter style in one package

Return Band Noise Suppression Filters

**EHP, EMHP Highpass Filters
EXSH Window Filters
EMSA Step Attenuators**

Highpass Filters

Highpass filters offer a variety of cut-off frequencies for all frequency formats. The EHP surface mount is the smallest highpass filter in the industry (1.485"). EMHP filters are available for specialized applications.

EXSH Window Filters

Window filters are designed for return band noise suppression but provide a "window" for addressable converter pilot carriers.

EMSA Step Attenuators

Step attenuators are used to condition and balance return signals. They are available in a variety of attenuation steps for all frequency formats. Custom designs for unique system applications are also available.

Highpass, Window Filter, and Step Attenuator Features

- Small size (1.485" for EHP, 1.965" for EMHP) for easier installation in small lockboxes and distribution panels
- Wide range of frequencies available with performance levels up to 1 GHz

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Single Channel Notch Filters EMN Negative / EMD Positive System M (NTSC, PAL M, PAL N)

Specifications

Upper Frequency Response: <1.5 dB
(<0.5 dB typical to 1 GHz)

Return Loss: -15 dB typical
(-1 dB/octave >50 MHz)

Impedance: 75 Ω

Current Capacity: 0.75 amps

RFI Isolation: >100 dBi

Typical Notch Depth:65 dB

Operating Temperature: -40° to +140°F

Frequency Stability:5 ppm/°F

Connectors: Type F Female/Male
per SCTE Specification IPS-SP-400/600

Finish: Nickel Plated
per QQ-N-290 Class 1 Grade G

Corrosion Resistance: Per Mil-Std-14072D
and SCTE IPS-TR-406, ASTM 368 Salt Fog Test

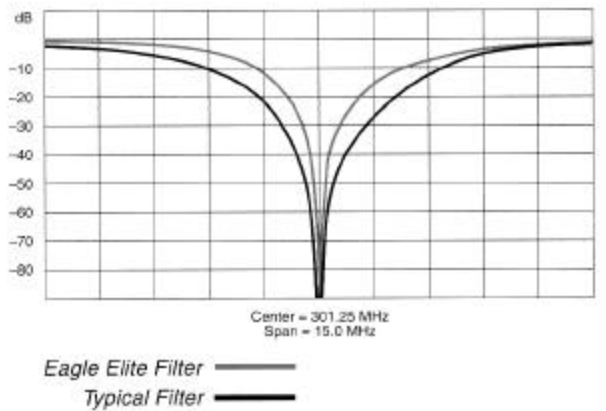
Environmental Exposure: Cycled at 95°F
and 95% Relative Humidity, SCTE IPS-IP20/00

Seal: Withstands 20psi

Dimensions: 1.965" Long, 0.825" Diameter

Split tuning available.

Negative and positive traps are the most commonly used method for pay television security. Negative traps block the video signal from entering the subscriber's home. Positive traps decode a scrambled channel.



Superior Selectivity

Special patented circuits provide superior selectivity for narrow bandwidth and low adjacent channel insertion loss.

System M (NTSC, PAL M, PAL N)					Typical Response in dB		
Channel	Video Carrier (MHz)	Decoding Frequency (MHz)	Audio Carrier (MHz)	L.A.S.	EMN-CH Upper Video	EMD-CH Video Loss	
2	2	55.25	57.5	59.75	--	-0.7	-1.7
3	3	61.25	63.5	65.75	-2.7	-0.7	-1.8
4	4	67.25	69.5	71.75	-3.0	-0.7	-1.9
5	5	77.25	79.5	81.75	-0.5	-1.0	-2.0
6	6	83.25	85.5	87.75	-3.5	-1.0	-2.1
A-5	95	91.25	93.5	95.75	-4.0	-1.0	-2.2
A-4	96	97.25	99.5	101.75	-4.1	-1.0	-2.3
A-3	97	103.25	105.5	107.75	-4.2	-1.0	-2.4
A-2	98	109.25	111.5	113.75	-4.3	-1.0	-2.5
A-1	99	115.25	117.5	119.75	-4.4	-1.0	-2.6
A	14	121.25	123.5	125.75	-4.5	-1.0	-2.7
B	15	127.25	129.5	131.75	-4.7	-1.0	-2.9
C	16	133.25	135.5	137.75	-5.0	-1.0	-3.0
D	17	139.25	141.5	143.75	-5.3	-1.0	-3.1
E	18	145.25	147.5	149.75	-5.5	-1.2	-3.3
F	19	151.25	153.5	155.75	-5.7	-1.2	-3.4
G	20	157.25	159.5	161.75	-5.9	-1.2	-3.5
H	21	163.25	165.5	167.75	-6.1	-1.2	-3.7
I	22	169.25	171.5	173.75	-6.4	-1.2	-3.7
7	7	175.25	177.5	179.75	-6.6	-1.2	-3.8
8	8	181.25	183.5	185.75	-6.8	-1.2	-4.0
9	9	187.25	189.5	191.75	-7.0	-1.2	-4.2
10	10	193.25	195.5	197.75	-7.3	-1.5	-4.5
11	11	199.25	201.5	203.75	-7.5	-1.5	-4.8
12	12	205.25	207.5	209.75	-7.7	-1.5	-5.0
13	13	211.25	213.5	215.75	-7.9	-1.5	-5.1
J	23	217.25	219.5	221.75	-8.1	-1.5	-5.2
K	24	223.25	225.5	227.75	-8.3	-1.5	-5.3
L	25	229.25	231.5	231.75	-8.6	-1.5	-5.4
M	26	235.25	237.5	239.75	-8.9	-1.5	-5.5
N	27	241.25	243.5	245.75	-9.1	-1.7	-5.6
O	28	247.25	249.5	251.75	-9.4	-1.7	-5.7
P	29	253.25	255.5	257.75	-9.6	-1.7	-5.8
Q	30	259.25	261.5	263.75	-9.8	-1.7	-5.9
R	31	265.25	267.5	269.75	-10.1	-1.7	-6.0
S	32	271.25	273.5	275.75	-10.4	-1.7	-6.2
T	33	277.25	279.5	281.75	-10.7	-1.7	-6.4
U	34	283.25	285.5	287.75	-11.1	-1.7	-6.6
V	35	289.25	291.5	293.75	-11.5	-1.7	-6.8
W	36	295.25	297.5	299.75	-11.9	-1.7	-7.0
AA	37	301.25	303.5	305.75	-12.3	-1.9	-7.2
BB	38	307.25	309.5	311.75	-12.6	-1.9	-7.5
CC	39	313.25	315.5	317.75	-12.8	-1.9	-7.9
DD	40	319.25	321.5	323.75	-13.0	-1.9	-8.1
EE	41	325.25	327.5	329.75	-13.2	-1.9	-8.3
FF	42	331.25	333.5	335.75	-13.4	-1.9	-7.9
GG	43	337.25	339.5	341.75	-13.6	-1.9	--
HH	44	343.25	345.5	347.75	-13.8	-2.1	--
II	45	349.25	351.5	353.75	-14.0	-2.1	--
JJ	46	355.25	357.5	359.75	-14.2	-2.1	--
KK	47	361.25	363.5	365.75	-14.4	-2.1	--
LL	48	367.25	369.5	371.75	-14.6	-2.1	--
MM	49	373.25	375.5	377.75	-14.8	-2.1	--
NN	50	379.25	381.5	383.75	-15.0	-2.1	--
OO	51	385.25	387.5	389.75	-15.2	-2.1	--
PP	52	391.25	393.5	395.75	-15.4	-2.1	--
QQ	53	397.25	399.5	401.75	-15.6	-2.1	--
RR	54	403.25	405.5	407.75	-15.9	-2.1	--

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