

HF Synchronous Channelisers

The LM071 channeliser covers the HF band of 1MHz to 10MHz in 1MHz channels. The LM070 channeliser covers the HF band of 7MHz to 15MHz, each channel being 1 MHz wide. Both products can be combined to provide full 1MHz to 15MHz HF coverage from two antennas.

Unlike traditional approaches utilizing a high degree power divider followed by individual filters, Teledyne Defence & Space's (TDS) innovative approach presents a compact, direct, channelised solution combining a number of filters to a single antenna feed using its expertise in filtering to offer a smaller and more power efficient solution without compromising on signal fidelity.

FEATURES

- 1MHz to 10MHz
- 7MHz to 15MHz
- Options :
 - DC to 10MHz (LMO68)
 - 10 MHz to 30 MHz (LMO69)
- Low Loss (< 11dB)
- Small Form Factor

The LM070 and LM071 utilise proprietary TDS technology to provide state of the art performance in a compact size, weight and power package.

Different channel combinations are easily scalable to cover the full HF band of DC to 30MHz. For further information on the LM068 - LM071 range of products, please contact the Sales Department or your Key Accounts Representative.

APPLICATIONS

- COMINT Receiver Pre-selection
- HF Digital Receivers

See restrictions on published datasheets at www.teledynedefence.co.uk/

LM070 ELECTRICAL SPECIFICATIONS

Parameter		Specification	
Passband		7 – 15MHz (Channeled as 7-8-9-10-11-12-13-14-15)	
Passband Insertion Loss		<11dB	
Insertion Loss Variation		<1.0dB	
Return Loss		>9.54	
Rejection	J2	D.C. – 5.5	<50
		9.5 – 50	<50
		88 – 108	<50
	J3	D.C. – 6.5	<50
		10.5 – 50	<50
		88 – 108	<50
	J4	D.C. – 7.5	<50
		11.5 – 50	<50
		88 – 108	<50
	J5	D.C. – 8.5	<50
		12.5 – 50	<50
		88 – 108	<50
	J6	D.C. – 9.5	<50
		13.5 – 50	<50
		88 – 108	<50
	J7	D.C. – 10.5	<50
		14.5 – 50	<50
		88 – 108	<50
	J8	D.C. – 11.5	<50
		15.5 – 50	<50
		88 – 108	<50
	J9	D.C. – 12.5	<50
		16.5 – 50	<50
		88 – 108	<50
INPUT RETURN LOSS,		7 – 15 MHz:	>9.54 dB
OPERATING TEMPERATURE:		-20°C to +50°C	

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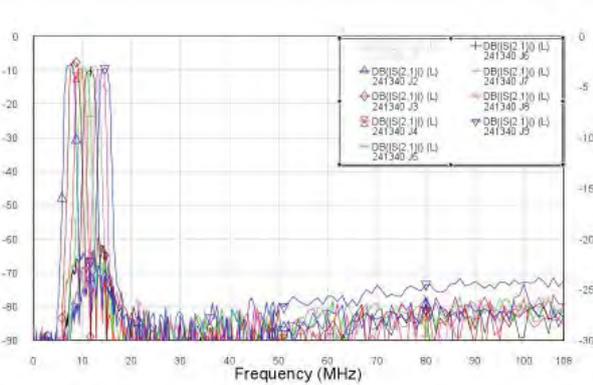
LM071 ELECTRICAL SPECIFICATIONS

Parameter		Specification	
Passband		1 – 10MHz (Channeled as 1-2-3-4-5-6-7-8-9-10)	
Passband Insertion Loss		<11dB	
Insertion Loss Variation		<1.0dB	
Return Loss		>9.54	
Rejection	J2	D.C. – 0.1	<50
		3.5 – 50	<50
		88 – 108	<50
	J3	D.C. – 0.5	<50
		4.5 – 50	<50
		88 – 108	<50
	J4	D.C. – 1.5	<50
		5.5 – 50	<50
		88 – 108	<50
	J5	D.C. – 2.5	<50
		6.5 – 50	<50
		88 – 108	<50
	J6	D.C. – 3.5	<50
		7.5 – 50	<50
		88 – 108	<50
	J7	D.C. – 4.5	<50
		8.5 – 50	<50
		88 – 108	<50
	J8	D.C. – 5.5	<50
		9.5 – 50	<50
		88 – 108	<50
	J9	D.C. – 6.5	<50
		10.5 – 50	<50
		88 – 108	<50
	J10	D.C. – 7.5	<50
		11.5 – 50	<50
		88 – 108	<50
INPUT RETURN LOSS,		1 – 10 MHz:	>9.54 dB
OPERATING TEMPERATURE:		-20°C to +50°C	

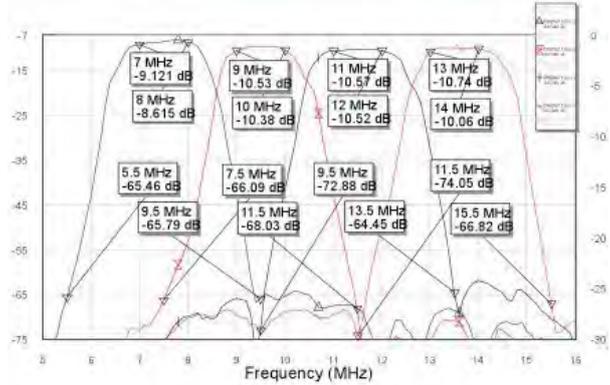
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PERFORMANCE DATA

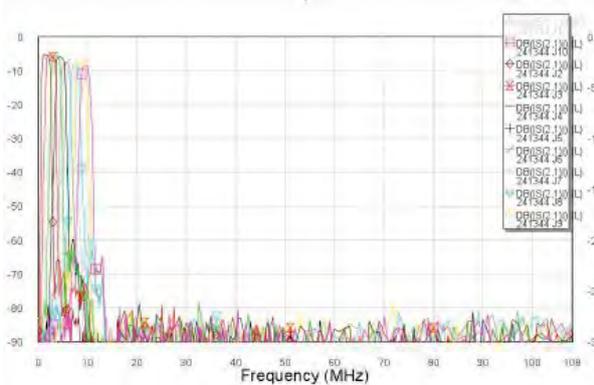
The illustrations show third degree filters, however, the degree could be increased to improve channel selectivity (channel to channel isolation) if necessary. The solution proposed effectively splits a common input into a number of separate channels and by TDS proprietary filtering techniques absorbs the power splitting network into the filter structure giving a lower overall noise figure and thus greater sensitivity.



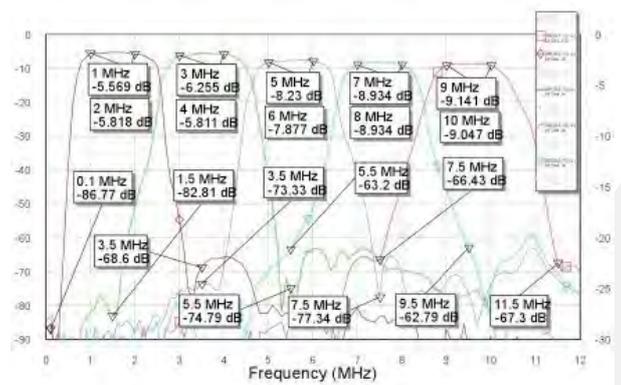
LM070
Rejection Performance of all Channels up to 108MHz



LM070
Channels J2, J4, J6 and J8 Respectively



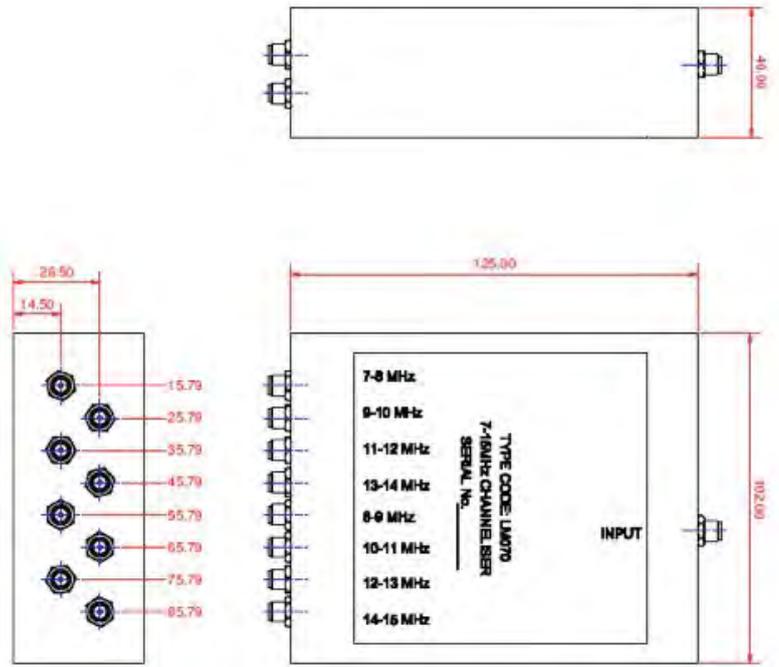
LM070
Rejection Performance of all Channels up to 108MHz



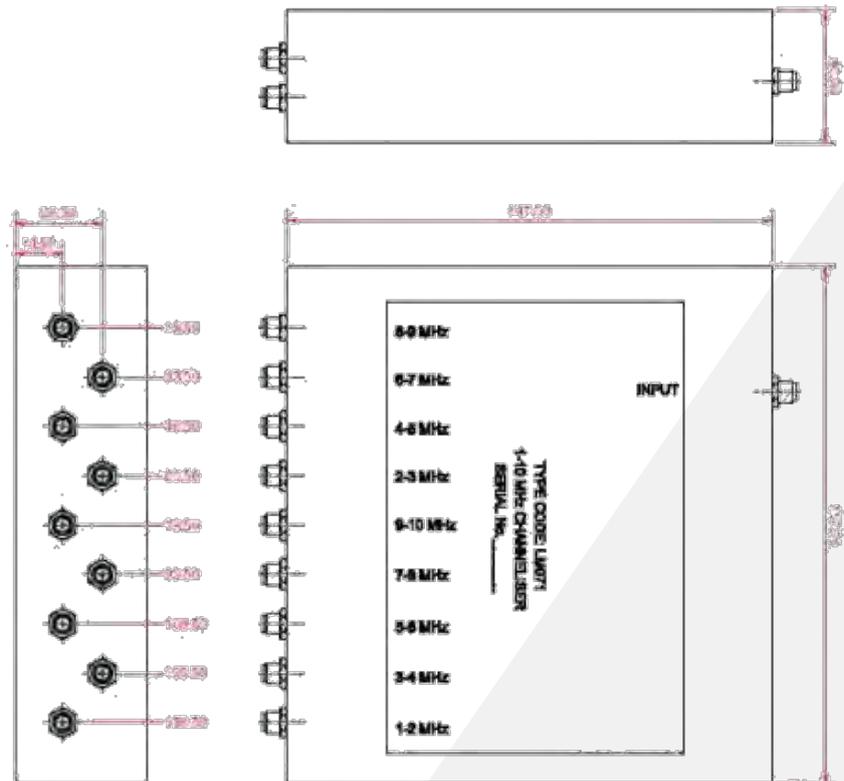
LM071
Channels J2, J4, J6, J8 and J10 Respectively

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OUTLINE DRAWING
LM070



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