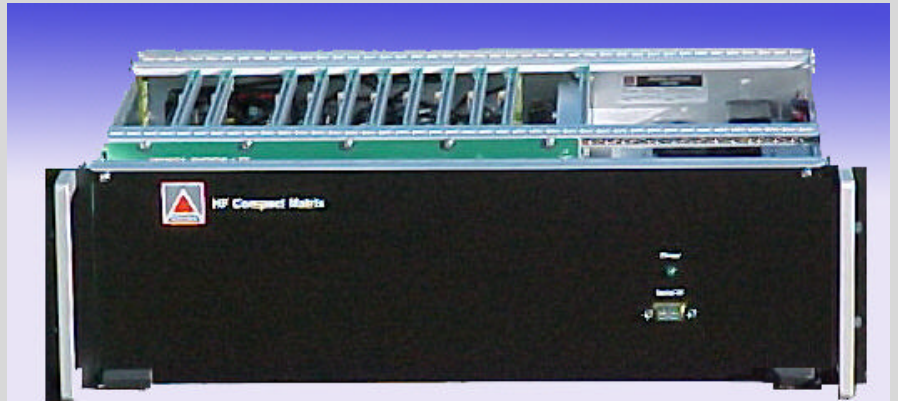




# Arkonia Systems Limited

## ARK7125 Series Compact HF Matrix

- ▲ *Frequency Range 2-30MHz*
- ▲ *Fast Solid State Switching Option*
- ▲ *High Isolation*
- ▲ *High 2nd and 3rd Order*
- ▲ *Proven SIGINT Performance*
- ▲ *2x8 and 4x8 ip/op options available*



The ARK7125 Series HF Compact Matrix is an active, non-blocking switching matrix covering the frequency range 2MHz to 30MHz. There are two options available in the compact form factor 2x8 and 4x8 with each output having independent access to any input, irrespective of the number of outputs being connected to the same input.

The equipment is housed in a 3U 19inch rack mounting chassis and can be controlled from either of two RS232/422 Serial Interface control ports; one intended for local control, the other for remote control.

The matrix has been designed for use in a ground benign environment, typically being installed in a 19-inch rack cabinet as part of an HF receiving system for communications or monitoring purposes. Each input channel is manufactured as a separate RF Multicoupler PCB assembly, containing a high performance HF amplifier and power splitter. The outputs from the multicoupler PCBs are connected to reed relay switch PCB's of which one for each output is used. This modular approach gives ease of maintenance and a high MTBF.

The equipment operates from a mains power supply, and incorporates a DC Power Supply Module.

A Built-in-Test facility ensures good maintainability of the HF Switching Matrix, providing local and remote indication of fault conditions. This BITE facility monitors the status of all amplifier devices within the equipment, and reports to the operator the specific location of any faulty RF PCB assembly.

The RF input stages of the HF Switching Matrix include protection circuitry against over-voltage surges, protecting the equipment from sustaining severe internal damage and giving high equipment reliability.

The unit is fitted with an internal cooling fan to ensure a low operating temperature is maintained.

The ARK7125 Series HF Compact Matrix forms part of a range of signal distribution equipment manufactured by Arkonia Systems Limited including multicouplers, combiners and system controllers.

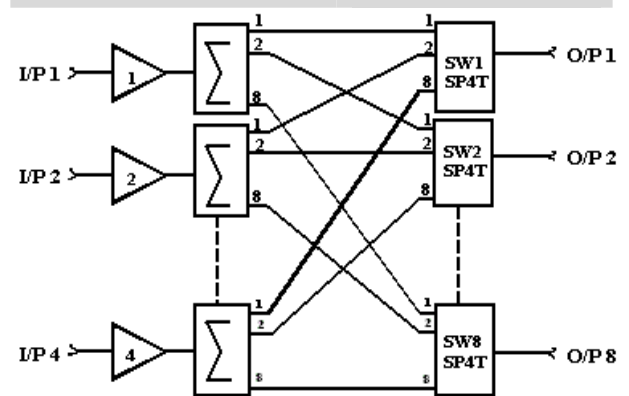
# Typical Specifications

## Electrical

	ARK7125-28R	ARK7125-48R
Number of Inputs	2	4
Number of Outputs	8	8
Frequency Range	2MHz to 30MHz	
Maximum Input Voltage (CW)	+10Vrms	
Maximum Input Voltage (Pulse)	2kV@ 1.6µs rise time, 50µs pulse	
Input Impedance	50 ohm	
Output Impedance	50 ohm	
Input VSWR	1.5:1 maximum	
Output VSWR	1.5:1 maximum	
Noise Figure	6.5dB maximum	
Gain	0dB minimum	
Gain Variation	± 1dB	
1dB Compression Point, input	+16dBm nominal	
<b>Isolation:</b>		
Input to Output	60dB minimum	
Output to Input	35dB minimum	
Input to Input	60dB minimum	
Output to Output	30dBm minimum	
2 <sup>nd</sup> Order Output Intercept Point	+75dBm minimum	
3 <sup>rd</sup> Order Output Intercept Point	+35dBm minimum	
<b>Control</b>		
	Local –RS232/422 Serial Remote –RS232/422 Serial Standard ASCII data format	
Switching Speed	10mS maximum	
Power Supply Requirement	220Vac +10%/-15% 50Hz ±5% 90/140 Watts nominal	

## Mechanical

<b>Dimensions:</b>	
Height	133mm (3U)
Width	483mm (19")
Depth	300mm
Weight	10kg nominal
<b>Connectors:</b>	
RF Inputs	N type
RF Outputs	BNC Type
Power Supply	IEC 3 pin
Switching Control	D-type
Switching Control	D-type
MTTR	30 mins max estimated
MTBF	40,000 hrs min estimated
<b>Environmental:</b>	
Operating Temperature	0°C to +50°C
Storage Temperature	-30°C to +70°C
Shock, Vibration	Ground Benign
Relative Humidity	Up to 95% at 35°C non-condensing



4 x 8 Matrix Schematic

FOR FURTHER TECHNICAL INFORMATION REQUEST: PRODUCT SPECIFICATION



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