

V-UHF Antenna Matrix Switching Unit CA5556-8/8



CommsAudit strives to offer the highest dynamic range for its RF signal distribution systems. We use a variety of proprietary designs employing advanced techniques. Our high performance V-UHF Matrix switching system incorporates very low power consumption with outstanding linearity in space-limited applications and has established CommsAudit as one of Europe's leaders in the field

The CA5556-8/8 is designed to switch the signals from 8 V-UHF Antennas through a non-blocking full fan-out switching matrix in a multiple V-UHF receiver system. Providing 8 receiver outputs, each of the receiver outputs can select any of the inputs without any restrictions.

Remote diagnostics are available from the controlling workstation; it has full visibility of the matrix subsystems down to amplifier level. If regular polling of the system status is used, potential failure can be identified by a trend in amplifier bias current or temperature. This provides the remote operator with a unique diagnostic ability.

Using high intercept point solid-state switch technology the CA5556-8/8 provides a step forward in V-UHF antenna switching Matrix technology The CA5556 Antenna Switch Matrix is one of a series of HF / VHF / UHF Units available from CommsAudit

Features: -

Frequency range:	30-1000 MHz (20 to 1300 with reduced performance)
Very high dynamic range: Typical output intercept:	>+30dBm third-order and >+65dBm second-order
Low power consumption:	<100 watts
Size suitable for limited space applications:	2U high 19-inch rack 483 mm wide 440 mm deep
Switching speed:	<1.5mS (from receipt of a command.)
Low noise figure typically:	5.5 dB
BITE is available through the TCP/IP network:	Full board level diagnostics

Designed and Manufactured in the U.K. by Communications Audit UK Limited

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The physical design of the CA5556-8/8 makes it suitable for limited space applications. It is housed in a 2U standard 19-inch rack enclosure. The CA5556 series of HF switch matrix units can be supplied with a number of input and output channels up to a maximum of 16 inputs and 32 outputs although multiple CA5556s can be employed for larger receiver systems.

Control of the CA5556-8/8 is via a standard Ethernet 10/100 Base T network connection or RS232 Serial data using either the CommsAudit supplied protocol or one based on the customer's requirements. Switching speeds of <1.5mS are possible (from receipt of a command). The CA5556-8/8 uses a proprietary low power amplifier design employing advanced techniques to provide excellent 2nd and 3rd order intercept points and high compression level.

TECHNICAL INFORMATION

Specification	Parameter Limit	Typical
Frequency Range:	30 to 1000 MHz (20 to 1300 with reduced performance)	
Noise figure:	Max 6.5 dB @ 25°C	5.5dB @ 25°C
Gain:	0dB ±1.5 dB	
Intermodulation and spurious signals:		
Input 3rd order intercept point min:	+27dBm at 25°C	+30dBm
2nd order intercept point min:	+60dBm at 25°C	+63dBm
Max RF input without damage:	+20 dBm	
Internally generated spurious:	Below -120 dBm in 10kHz bandwidth	
RF input / output impedance:	50 ohms nominal	
VSWR (50 ohms) Input max:	2.0: 1	
VSWR (50 ohms) Output max:	2.0: 1	
Isolation (see note 1)		
Output-to-Output non-common input min:	55dB under all conditions	60dB
Output port to input port reverse isolation min:	50dB under all conditions	55dB
Input to input min:	45dB under all conditions	50dB
Output-to-Output common input min:	30dB under all conditions	35dB
Unselected input to output min:	40dB under all conditions	43dB
Switching speed:	< 1.5mS	
Connectors:		
Signal input:	SMA Standard 50 ohm	
Signal output:	SMA Standard 50 ohm	
Power Connector dc	Binder 723 Series	
Power Connector External PSU:	IEC320 3 pin	
TCP/IP:	RJ45	
Input ports:	8 (Contact CommsAudit for other options)	
Output ports:	8 (Contact CommsAudit for other options)	
BITE:	DC, switch errors, DC Bias, Temperatures.	
Control:	TCP/IP & RS232	
Special options:	Contact CommsAudit	
Power External PSU:		
Power source:	90 to 240 VAC 50Hz	
Power Consumption:	<100Watts for 8 X 8 Matrix	
Protection:	fuse	
Power source DC	12 Vdc	
Dimensions for 8x8 Matrix:		
Height:	2U for a 8 x 8 matrix	
Width:	483 mm 19" rack mounting	
Depth:	410 mm maximum	
Environmental:		
Cooling:	2 Fans air flow front to back	
Operating Temperature range:	-15° to +50°C Storage:-40° to +70°C	
Humidity:	30% to 80% relative humidity, non-condensing	
Part Numbers:	CA5556-8/8	
Order information	Please quote part Numbers CA5556-8/8 Connector type - Special options	

Notes:

1. The isolation figures are a trade off between performance, overall power consumption, and physical size

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