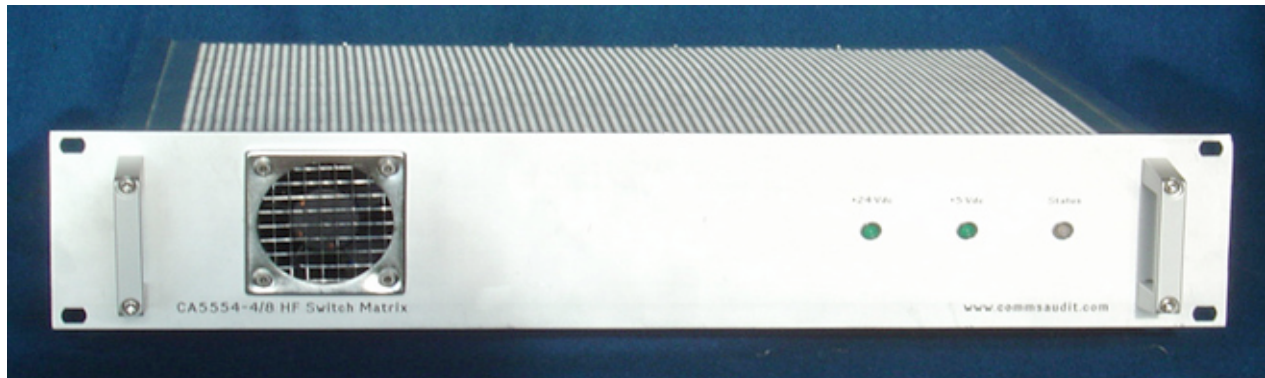


HF Antenna Matrix Switching Unit CA 5554



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 Matrix switching systems incorporate a low noise figure with outstanding linearity and have established CommsAudit as one of Europe's leaders in the field

The CA5554 is designed to switch the signals from a number (n) of HF Antennas through a non-blocking full fan-out switching matrix in a multiple HF receiver system. Providing a number (n) of receiver outputs, each of the receiver outputs can select all of the inputs.

Using high intercept point solid-state switch technology the CA5554 provides a step forward in RF antenna switching Matrix technology. The CA5554 Antenna Switch Matrix is one of a series of HF / VHF / UHF Units available from CommsAudit

Features: -

Frequency Range:	2 to 30 MHz 1.8 to 40 MHz with reduced performance
Very High Dynamic Range: Typical Output	>+46dBm third-order >+93dBm second-order
Low Noise Figure:	<8.5dB @ 10 MHz
Excellent 1dB Compression Point:	+28dBm
Switching speed:	<1.5mS

BITE is available through the TCP/IP network

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

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The physical design of the CA5554 minimises the normal signal path lengths with a simple 'in and out' approach and is housed in a standard 19-inch rack enclosure. All CommsAudit's HF switching Matrices have extensive input protection networks to provide some protection from nearby lightning strikes The CA5554 can be supplied in a number of input output channels up to a maximum of 32 although multiple CA5554s can be employed for larger receiver systems.

Control of the CA5554 is via a standard Ethernet 10/100 Base T network connection 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 CA5554 uses a proprietary amplifier design employing advanced techniques to provide excellent 2nd and 3rd order intercept points in the presence of high level interference signals.

TECHNICAL INFORMATION

Specification	Parameter Limit	Typical
Frequency Range 3dB	2 to 30 MHz	1.8 to 40 MHz
Noise figure:	<8.5 dB @ 10 Mhz at 25°C	7.5dB
Gain variation:	± 1.25dB 2-30 MHz	± 0.75dB
Output 3rd order intercept point min:	>+43dBm 25°C (2 x 0 dBm signals @ 6 & 7 MHz)	>+46dBm
Output 2nd order intercept point min:	>+90dBm 25°C (2 x 0 dBm signals @ 6 & 7 MHz)	>+93dBm
Max RF input continuous CW:	+30 dBm	
Max RF input Pulse:	2kV, 1.6µs rise time 50µs duration (with external protection devices)	
1dB Compression Point:	+28dBm	
RF input / output impedance:	50 ohms nominal	
Input VSWR (50 ohms):	1.5: 1 max 3 to 30 MHz.	
Output VSWR (50 ohms):	1.5: 1 max 3 to 30 MHz.	
Isolation:		
Output to Output common input:	>27dB @ 30MHz	35dB
Output to Output non common input:	>60dB @ 30MHz	65dB
Input unused to Output:	>40dB @ 30MHz	43dB
Output port to input port:	>55dB @ 30MHz	60dB
Switching speed:	<1.5mS from receipt of a command	
Connectors:		
Signal input:	BNC SMA	
Signal output:	BNC SMA	
Power Connector External PSU:	IEC320 3 pin	
BITE:	DC, switch errors, Amplifier Bias & Temperature,	
Control:	TCP\ IP & RS232 standard	
Options:		
Input port No:	4, 6, 8, 12, 16.	
Output port No:	8, 16, 24, 32.	
Larger systems:	Multiple CA5554's can be employed	
EMP protection devices (external):	Gas-discharge (option)	
Input Filters:	Contact CommsAudit	
Special options:	Contact CommsAudit	
Power supplies:		
Power source matrix unit:	24 VDC	
Power source External PSU:	90 to 240 Vac 50Hz	
Power Consumption:	<50 Watts for 4 x 8 ports	
Protection:	fuse	
Dimensions:		
Width:	483 mm 19" rack mounting	
Depth:	650 mm maximum	
High:	2U for a 4 x 8 matrix 6U for a 16 x 32 matrix	
Environmental:		
Temperature range:	Operating -15° to +55°C Storage -20° to +70°C	
Part Numbers:	CA5554	
Order information:	Please quote part Number CA - Input (n)-Output (n) port Number - Connector type - Special options	

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