

## Embedded Computing, Timing and Telemetry Products

### WA-0851 Antenna Distribution System

The WinRADiO WA-0851 Antenna Distribution System is an antenna switching and distribution device integrated with inbuilt frequency downconverters. While it particularly excels in combination with the WinRADiO MS-8118/G3 Multichannel Surveillance and Monitoring System (whose frequency range it extends up to 8.599 GHz), this device can be also used with third-party receiver systems. It can be operated stand-alone via front panel controls, or remotely via USB or LAN interface.

#### Features

- Wide frequency range from 0.4 MHz to 8.599 GHz
- 8 antenna inputs, 8 receiver outputs
- Custom configurations available
- Manual or remote control
- High IP3 matrix switches and amplifiers
- High isolation
- High stability down-conversion
- Ruggedized enclosure for mobile operations

The WA-0851 system features 8 antenna inputs (4 separate inputs for HF/VHF/UHF ranges, 4 separate inputs for SHF) and 8 receiver outputs. Internally, it consists of antenna matrix switches, preamplifiers with an extremely high third order intercept point and high stability frequency downconverters.

The WA-0851 system is eminently suitable for government, defense, law enforcement and other demanding high-end applications.

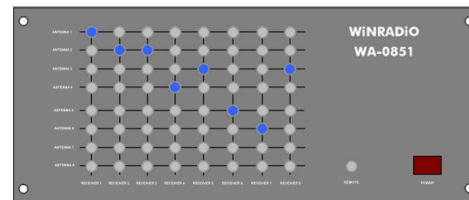
Module	Bottom frequency	Top frequency
HF	0.4 MHz	30 MHz
VHF	30 MHz	300 MHz
UHF	300 MHz	1.800 GHz
SHF1	1.800 GHz	3.500 GHz
SHF2	1.800 GHz	8.599 GHz

The antenna inputs can be customized and configured according to the user request by using HF, VHF, UHF, SHF1

and SHF2 modules for frequency ranges shown in the adjacent table.

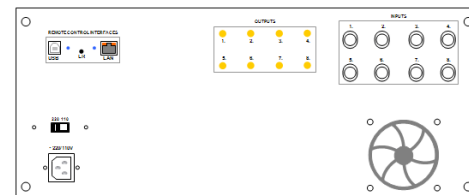
The unit also contains convenient power supplies for external antenna preamplifiers (12 V current-limited DC voltage source is internally applied to the antenna leads of HF, VHF and UHF inputs).

#### Front Panel



The WA-0851 front panel contains 8 x 8 LED-illuminated matrix switch buttons, a remote enable button and the power switch.

#### Rear Panel



The eight antenna inputs use N-type connectors located at the rear of the device. The eight outputs are connected to the receivers using SMA connectors.

A connection to the USB port is via a standard USB-B connector and the LAN network interface is via an RJ45 connector.

#### WA-0851 Software

When used with the WinRADiO MS-8118/G3 Multichannel Surveillance and Monitoring System, the WA-0851 software integrates seamlessly with the system, and the frequency range of the MS-8118/G3 unit automatically extends according to the WA-0851 configuration.

When used stand-alone, or in conjunction with third-party receiver systems, the WA-0851 unit can be controlled either manually using the operator control panel, or remotely via a supplied software application.

Programmers' SDK API is also available, to facilitate OEM integration and third-party application development.

Technical Specifications		
Configuration	8 inputs / 8 outputs Non-blocking for HF, VHF, UHF and SHF1 modules Partial blocking for SHF2 modules	
RF Connectors	8 x input (N-female) 8 x output (SMA-female)	
Gain	HF input: +2 dB ( $\pm$ 1 dB) VHF input: 0 dB ( $\pm$ 1 dB) UHF input: +1 dB ( $\pm$ 2 dB) SHF1 input: 10 to 12 dB SHF2 input: -3 to 12 dB	
Frequency range	Depends on current input module configuration. (0.4 MHz to 8599 MHz when using HF, VHF, UHF and SHF2 input modules.)	
Impedance	50 ohm (all inputs and outputs)	
Max. input level	HF, VHF: +22 dBm for no damage UHF: +17 dBm for no damage SHF: 0 dBm for no damage	
IIP1	Module	IIP1
	HF	+17 dBm at 25 MHz
	VHF	+20 dBm at 150 MHz
	UHF	+8 dBm at 1000 MHz
	SHF1 SHF2	-15 dBm to 0 dBm
IIP3	Module	IIP3
	HF	+33dBm at 25MHz
	VHF	+36dBm at 150MHz
	UHF	+24dBm at 1000MHz
	SHF1 SHF2	+1 dBm to +16 dBm

Output-to-output isolation (typical values)	Frequency	Isolation
	10 MHz	-109 dB
	100 MHz	-88 dB
	400 MHz	-86 dB
Input-to-output isolation for HF, VHF and UHF modules (typical values)	Frequency	Isolation
	10 MHz	-65 dB
	100 MHz	-44 dB
	400 MHz	-46 dB
Input-to-output isolation for SHF1 and SHF2 modules (typical values)	Frequency	Isolation
	10 MHz	-80 dB
	100 MHz	-59 dB
	400 MHz	-61 dB
Power supply for active antennas	Frequency	Isolation
	10 MHz	-80 dB
	100 MHz	-59 dB
	400 MHz	-61 dB
Power supply for active antennas	12 V DC (max 0.4 A) on antenna inputs of HF, VHF and UHF modules	
Remote control interfaces	USB 1.1/2.0 (USB-B connector) LAN interface for TCP/IP networks (RJ45 connector)	
Power	120/240 VAC, 50 Hz, selectable 13–60 W (depends on configuration)	
Dimensions	Width: 19" rack Height: 5RU (8.75" = 222 mm) Depth: 14.4"(365 mm)	
Weight	20.1 - 24.9 lb (9.11 - 11.3 kg) (depends on configuration)	

Specifications are subject to change without notice due to continuous product development and improvement.

