RDA-6A / RDA-8A Reference Distribution Amplifier

The RDA-6A is a six channel Reference Distribution Amplifier designed for distributing a 10MHz Rubidium or GPS disciplined oscillator, to laboratory equipment such as frequency counters, spectrum analyzers or signal generators. This allows all of your laboratory equipment to be stabilized to one reference frequency. The RDA-8A has two (2) additional 5 MHz reference output ports when driven with a 10MHz input signal. This provides an additional reference for test equipment designed to use 5 MHz as an external reference input, such as an HP-8640 signal generator and some frequency counters.

The RDA-6A provides high isolation between output channels and high isolation from any output channel to the input channel. This prevents one piece of test equipment from disturbing another, a typical problem when using resistive power splitters to distribute a reference frequency.

The output level is typically +10dBm with a +10dBm input channel level. This meets the required driving level of most test equipment. Each output channel level can be adjusted over a 57dB range from +13 to -45dBm, allowing independent level settings for each

channel if needed. The 5 MHz reference outputs on the RDA-8A are not adjustable and are set for an output level of approximately +10dBm at the factory.

Each unit is powered from a wall mounted 12VDC power supply and the unit is always powered ON as there is no power switch to get turned off accidently. A front panel green LED indicates the power on condition of the RDA-6A and RDA-8A.

Product Specifications

Specification	Conditions	Values		
		MIN	**TYP**	**MAX**
Input Voltage	Wall Mounted Xfmr – 2.5mm Conn		+12V	
Input Current	RDA-6A Version		490 ma	520 ma
Input Current	RDA-8A Version		590ma	620ma
Port RF Impedance		50 ohms		
Output to Input Isolation	A +10dBm 10MHz signal driving a single output port	>60 dB @ 10MHz		
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RF Output Power	Into a 50 ohm RF load		+10 dBm	+13 dBm
5 MHz Harmonics	Harmonic content of 5 MHz ports	-35dBc	>-45dBc	
Temperature Range	None condensing conditions	-20 C	--	+70 C
Factory Warranty	Under normal use, no intentional damage found	1 Year, Full Replacement if no intentional damage found		

Customer External Connections

Connection	Function
IN	Reference Oscillator Input connector
CH-1 to CH-6	Reference output ports (6 total)
Rear Power Input	+12 VDC @ 490ma. typical
CH7 – CH8	5MHz Reference Output (***RDA-8A only***)

Output Level Adjustment

Each output channel can have its output level adjusted over a 57 dB range to allow each port to be matched to the equipment it is driving. Typically this would not be necessary as most test equipment will take a +10dBm level under most conditions. But for those situations that do require a lower output level, an on-board level adjustment is provided for Channel 1 to Channel 6 output ports.

To access the adjustment, the top cover must be removed to gain access to the level adjustments.

1.) Remove DC power from the rear of the RDA-6A / RDA-8A.
2.) Remove the (4) flat head screws from each corner of the rear panel.

3.) Pull the bezel and rear panel off the unit.
4.) Now slide the top panel away from the unit, exposing the (6) level adjustments.
5.) Plug the DC power connector back in, and plug the Reference Oscillator into the IN port on the front panel.
6.) Connect a power meter or high frequency oscilloscope to the output channel that needs adjusting.
7.) Locate the adjustment potentiometer and set the output level as needed for the equipment being driven.
8.) When done, remove power, slide the top cover back onto the unit, place the rear bezel and panel back onto the rear, and put the (4) mounting screws back into the four corners.

Warranty

All JWM Engineering Group, Inc. products are warranted against defects in materials and workmanship. This warranty applies for one year from the date of delivery. JWM Engineering Group, Inc. will repair or replace products that prove to be defective during the warranty period, provided they are returned to JWM Engineering Group, Inc. No other warranty is expressed or implied. JWM Engineering Group, Inc. is not liable for any consequential damages.

A return material authorization (RMA) is required before returning a product for repair or replacement. Contact JWM Engineering Group, Inc. at the contact information provided below.

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