



OAR02-050C OUTDOOR ACTIVE REPEATER (50Watts)

- **Broadband High Power Repeater**
- **31 Channel Capability**
- **Outdoor Mounting to Minimize Waveguide Losses**
- **Durable, Modular Construction**
- **Digital Ready**
- **Efficient, Compact Size**

PRODUCT APPLICATION:

The OAR02-050 is a broadband, on frequency repeater designed to receive, amplify, and retransmit up to 31 analog television channels or 150 digital channels (64QAM modulation).

The OAR02-050 is designed to provide cost effective coverage over a wide area. With an omni-directional transmit antenna it can cover an area of approximately 6 Kilometer radius when fully loaded with 31 channels, or a 10 Km radius when loaded with 15 channels.

A larger area can be covered if the desired coverage is less than 360 degrees in azimuth.

The per channel output power depends on the channel loading. For a 31 channel load, the repeater delivers a peak power of over 100 milliwatts per channel with a C/CTB of 50 dB.

The OAR02-050 is designed to operate outdoors in a variable temperature environment. For increased reliability, an external cooled heat sink maintains component temperatures at desirable levels and an internal temperature sensor protects the high power amplifier from failure due to overheating.

To facilitate operational monitoring with a field strength meter or a TV monitor, the OAR02-050 includes a test point connector. Operational diagnostic voltages can be monitored locally. An option allows the voltages to be monitored remotely via serial port interface to a standard Windows-equipped PC.

The repeater features an efficient, compact design, consisting of a Microwave AGC circuit, a Low Noise Amplifier (LNA), and a Power Amplifier, all packaged in a weather proof enclosure.

Product Specification¹



Repeater																			
Input Frequency ² :	2.5 to 2.7 GHz																		
Nominal Input Level for 12 TV:	- 50 dBm																		
Output Frequency ² :	2.5 to 2.7 GHz																		
Output Level for 50 dB C/CTB: (measured with CW carriers) ³	<table border="1"> <thead> <tr> <th>Channels</th> <th>Average Power dBm/Channel</th> <th>Peak Power dBm/Channel</th> </tr> </thead> <tbody> <tr> <td>9</td> <td>24.5</td> <td>27.0</td> </tr> <tr> <td>12</td> <td>23.0</td> <td>25.5</td> </tr> <tr> <td>18</td> <td>21.0</td> <td>23.5</td> </tr> <tr> <td>24</td> <td>19.0</td> <td>21.5</td> </tr> <tr> <td>30</td> <td>18.0</td> <td>20.5</td> </tr> </tbody> </table>	Channels	Average Power dBm/Channel	Peak Power dBm/Channel	9	24.5	27.0	12	23.0	25.5	18	21.0	23.5	24	19.0	21.5	30	18.0	20.5
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12	23.0	25.5																	
18	21.0	23.5																	
24	19.0	21.5																	
30	18.0	20.5																	
Frequency Response:	±1 dB																		
Gain:	63 dB																		
Noise Figure:	5 dB																		
Input Return Loss:	15 dB																		
Input Connector:	Type "N"																		
Output Return Loss:	18 dB																		
Output Connector:	Type "N"																		
Temperature Range:	-40° to 122° F (-40° to 50° C)																		
Primary Power:	60/120/240 VAC @ 50/60 Hz (per customer spec)																		
Power Consumption:	750 VA RMS																		
Mounting:	Antenna Pole																		
Weight:	110 lbs (49.9 kg)																		
Dimensions:	20" W x 24" H x 19" D (51cm x 61cm x 48cm)																		

¹ Specifications subject to change without prior notice.

² Other frequencies available.

³ The C/CTB with modulated carriers are approximately 6 dB better than with CW carriers.