



## **IAR02-500C INDOOR ACTIVE REPEATER (500 Watts)**

- ◆ **Broadband High Power Repeater**
- ◆ **31 Analog Channels or 150 Digital Programs**
- ◆ **Redundant Power Amplifier and Power Supply**
- ◆ **Built In Diagnostics**
- ◆ **Reliable, Modular Design and Construction**

### **PRODUCT APPLICATION:**

The IAR02-500 is a broadband active repeater designed to receive, amplify, and retransmit (at the same frequency) up to 31 analog television channels or 150 digital channels (64QAM, 256 QAM or OFDM modulations).

It is designed to provide cost-effective coverage over a wide area. With an omnidirectional transmit antenna it can cover an area of approximately 35 Kilometer radius when loaded with 31 channels, or a 50 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 output power per channel depends on the channel loading. For a 12 channel load, the repeater delivers 2 Watts per channel with a C/CTB of 50 dB (measured with CW carriers) or approximately 4 Watts per channel peak power.

The IAR02-500 features a redundant power amplifier assembly (two amplifiers in parallel) for increased reliability. The repeater will operate with only one power amplifier at a slightly reduced power level.

To facilitate transmitter monitoring with a field strength meter or a TV monitor, the IAR02-500 includes VHF input/output monitors.

Transmitter diagnostic voltages can be monitored locally or remotely via serial port interface to a standard Windows-equipped PC.

The repeater features a modular design consisting of a Low Noise Amplifier (LNA), Automatic Gain Controller (AGC), Dual Power Amplifier assembly and dual power supplies.

**IAR02-500C**

| <b>Repeater</b>   |  |                                      |                                   |
|---|--|--------------------------------------|-----------------------------------|
| Input Frequency <sup>2</sup> :  | 2.5 to 2.686 GHz   |                                      |                                   |
| Nominal Input Level for 12 TV:  | +4 dBmV (- 45 dBm)                                       |                                      |                                   |
| Output Frequency <sup>2</sup> :   | 2.5 to 2.686 GHz   |                                      |                                   |
| Output Level for 50 dB C/CTB:<br>(measured with CW carriers) <sup>3</sup> | <b>Channels</b>  | <b>Average Power<br/>dBm/Channel</b> | <b>Peak Power<br/>dBm/Channel</b> |
|   | 9  | 34.5                                 | 37.0                              |
|   | 12   | 33.0                                 | 35.5                              |
|   | 18   | 31.0                                 | 33.5                              |
|   | 24   | 29.0                                 | 31.5                              |
|   | 30   | 28.0                                 | 30.5                              |
| Frequency Response:   | ±1 dB  |                                      |                                   |
| Gain:   | 75 dB  |                                      |                                   |
| Noise Figure:   | 4.5 dB   |                                      |                                   |
| Input Return Loss:  | 15 dB  |                                      |                                   |
| Input Connector   | Type "N"   |                                      |                                   |
| Output Return Loss:   | 18 dB  |                                      |                                   |
| Output Connector:   | Type "N"   |                                      |                                   |
| Temperature Range:  | 60° to 100°F (16° to 38°C)                               |                                      |                                   |
| Humidity:   | 95% max.   |                                      |                                   |
| Primary Power:  | 120/240 VAC, 50/60Hz (per customer specification)        |                                      |                                   |
| Power Consumption:  | 1900 VA RMS  |                                      |                                   |
| Mounting:   | Enclosed Equipment Rack                                  |                                      |                                   |
| Weight:   | 250 lb. (181.8 kg)                                       |                                      |                                   |
| Dimensions:   | 22" W x 48" H x 27" D<br>(55.9cm W x 122cm H x 68.6cm D) |                                      |                                   |

<sup>1</sup> Specifications subject to change without prior notice.

<sup>2</sup> Other frequencies available.

<sup>3</sup> The C/CTB with modulated carriers is approximately 6 dB better than with CW carriers.