

**LPRO-DA**  
**Economy 10 MHz Rubidium Frequency Standard**  
**With 3 Channel Distribution Amplifier**  
by Silicon Forest Solutions



## Introduction

The LPRO-DA combines the best economy performance technology of yesterday and today. We use a refurbished rubidium oven for low-jitter, precision 10 MHz output, and three buffered, tuned output channels with adjustable power out. With typical frequency accuracy of  $2 \times 10^{-10}$  or better, a status indicator showing power and atomic lock, and annual adjustment, you can trust the LPRO-DA to be your low-cost house standard.

## Features

- Typically accurate to  $< 2 \times 10^{-10}$  in a stable operating environment
- Low phase noise 10 MHz,  $50\Omega$  BNC output
- Three Buffered Output Channels
- Each buffered output channel is adjustable from  $-30$  dBm to  $+12$  dBm out
  - Rotate potentiometer **clockwise to increase power**. Pot is located immediately above the output channel.

## Installation

### **Important note: Heat Dissipation and Ventilation**

The LPRO-DA generates approximately 12 watts of heat. To dissipate this heat, the LPRO-DA must have free air flow around it, or be fastened to or placed on a sufficient heat sink. A good place to mount the LPRO-DA is on the inside of your test equipment rack or to the top of your equipment.

Step 1: Verify that all of the contents are present:

- LPRO-DA assembly
- AC to DC adapter, 100-240VAC in, +24V 1.7A out

Step 2: Mount or secure the LPRO-DA module in your desired location, being mindful of heat dissipation requirements.

Step 3: Adjust the output power levels as necessary for your equipment. The factory-default setting is +12 dBm on all channels. Fully clockwise is maximum power.

Step 4: Attach BNC cables from each LPRO-DA output to the “10 MHz IN” inputs on your test equipment.

Step 5: Plug the DC power supply jack into the LPRO-GPS. Plug it into AC power.

Step 6: Observe the status LED. It should be yellow, indicating device is powered but not warmed up.

Step 8: Wait 20 minutes. The LED should turn from yellow to green, indicating rubidium atomic lock.

Annually: Using a GPS time standard and a 12-digit counter, adjust the C-field mechanical potentiometer to zero the frequency error.

## Disclaimer

We have made every effort to ensure that the information in this manual is correct. However, we are not responsible for errors this manual may contain. The warranty period covers repair or refund, our choice, up to the original purchase price of the LPRO-DA not including shipping. Under no circumstances shall we be responsible for any damages beyond the original purchase price.

## Sales and Service Information

Please visit <http://www.TenMHz.com> for sales and service inquiries as well as contact information.