

# Frequency Standards Component Oscillators Series 9400

## Introduction

Racal-Dana crystal controlled frequency standards feature low power consumption, good temperature stabilization, and excellent aging performance. This makes them ideal for use in communications equipment and precision instruments. They are built to stringent

military specifications and use high quality glass or coldweld sealed crystals. During production, the temperature and aging performance of each oscillator is checked and recorded. Small size, rugged construction, and fast warm-up characteristics make these oscillators particularly suitable for transportable equipment.

## Specifications

Model Number	9420	9421	9442/5, 12	9443
Output Frequency	5 MHz			
Output Level (Peak-to-Peak)	1V into 50 ohms		1V into 1000 ohms	
Operating Temperature	-10°C to +60°C			
Daily Aging Rate (after 3 months)	$<5 \times 10^{-16}$		$<3 \times 10^{-16}$	
Warm-up Time	20 minutes to $1 \times 10^{-7}$		6 minutes to $2 \times 10^{-7}$	
Stability with Temperature Change (per °C)	$\pm 6 \times 10^{-16}$		$\pm 3 \times 10^{-16}$	$\pm 4 \times 10^{-16}$
Stability with 10% Supply Voltage Change	$\pm 5 \times 10^{-16}$	$\pm 3 \times 10^{-16}$	$\pm 4 \times 10^{-16}$	
Stability with 10% Load Change	$\pm 5 \times 10^{-16}$	$\pm 3 \times 10^{-16}$	$\pm 5 \times 10^{-16}$	
Trim Range (parts in $10^7$ )	-8 to +2	-7 to +3	-60 to +30	
Supply Voltage	12V	5V	5V or 12V	5V
Typical Supply Current (after Warm-up)	120 mA	250 mA	150 mA (5V) 60 mA (12V)	170 mA
Dimensions	51 x 51 x 96 mm (2 x 2 x 3.75 inches)		51 x 51 x 51 mm (2 x 2 x 2 inches)	51 x 51 x 32 mm (2 x 2 x 1.25 inches)
Base	B7G			

## Series 9400 Ordering Information

**Model 9420:** Oven Reference Oscillator

**Model 9421:** Oven Reference Oscillator

**Model 9442/5:** Fast Warm-Up Oven Oscillator

**Model 9442/12:** Fast Warm-Up Oven Oscillator

**Model 9443:** Miniature Fast Warm-Up Oven Oscillator

**Model 9462:** Used in US military contract 1992 counters

1992 options:

04A 9444\* or 11-1710 Approx. cube 5 cm, only one adjustment

04B 9423

04E 9462\* or 404386 (?) or 454879\* Approx 5x5x10cm, two adjustments

04E oscillator is labeled "9462 454879, Rev. A ERC 87-34"

\* = verified labeling in actual counters