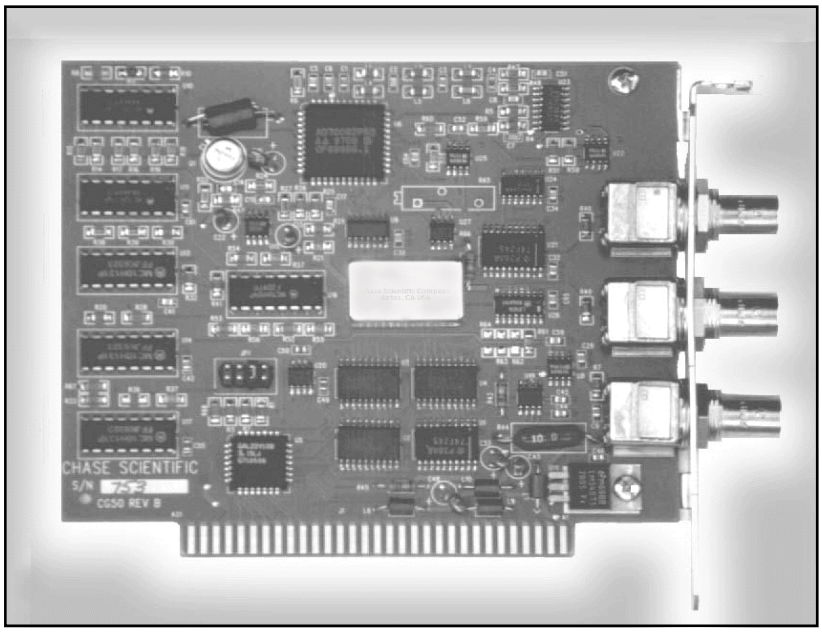
CG50 - 50MHz Frequency Synthesizer, 1-PPM

Chase Scientific Company - *Innovators in Embedded Systems Instrumentation*

Updated 10/16/03

FEATURES

- 1 Hz to 50 MHz TTL clock outputs
- 1-ppm standard accuracy
- As low as 1 Hz resolution
- <100 psec jitter above 1MHz
- Frequency translation
- Multi-system s synchronization
- (8) selectable base I/O addresses
- Half-size, 8-bit ISA card
- DOS command line driver
- Win 95/NT DLL and GUI



DESCRIPTION

The CG50 is a multi-purpose, precision clock source capable of delivering stable (1-ppm) TTL clock outputs from 0.01 Hz to 50 MHz with resolutions as low as 0.01 Hz.

It includes a convenient phase lock mode that allows an input frequency between 20 MHz and 50 MHz while maintaining the same output frequency range (i.e. 0.01 Hz - 50 MHz). The CG50 clock outputs can then be synchronized with an external clock source providing frequency stabilities much less than 1-ppm.

There are 2 clock outs and 1 user clock in. All connections use BNC connectors.

The CG50 comes on a half size 8-bit ISA bus card.

Programmable Features

The CG50 can be programmed for instantaneous step in phase and frequency for demodulator testing.

Many different phase modulation test schemes can be created directly in software that would normally require a sophisticated Arbitrary Waveform Generator.

A rudimentary knowledge of programming in either Turbo Pascal, Turbo C, or Basic is required to use these features.

Open Hardware Architecture

Six PC I/O addresses (default 220h-225h) access internal registers and allow total control over all clock generation functions.

With the supplied information on these registers, a user can completely integrate the board into their custom application.

APPLICATIONS

- Stable, precise clock source
- Low cost substitute for stand-alones
- Embedded instrumentation
- Frequency up/down converter
- Synchronize multiple test systems to a single source

Software

The Graphical User Interface (GUI) and DOS compatible command line driver program provide simple control over frequency output and board addressing.

A Win 95/NT DLL is included.

Call Chase Scientific for other operating systems and environments.

Ideal for Embedded Systems

The CG50 is ideal for embedded applications where a stand-alone or bench-top unit is currently used.

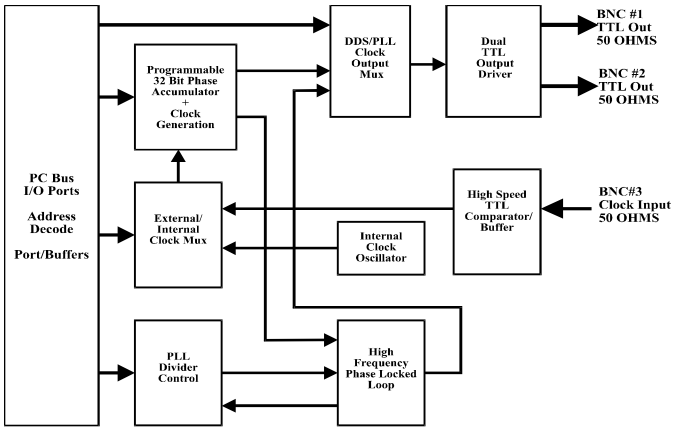
It provides OEMs, system builders and end-users a way to develop solutions with better integration and lower cost without sacrificing performance.

Made in USA

Designed for Microsoft Windows NT Windows 95

Chase Scientific Company

P.O. Box 1847, Langley, WA 98260 Tel: (360) 221-8455 Fax: (360) 221-8457 Email: sales@chase2000.com Web: www.chase2000.com

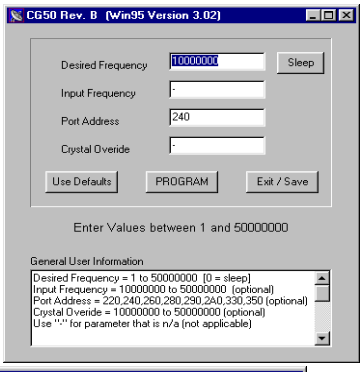


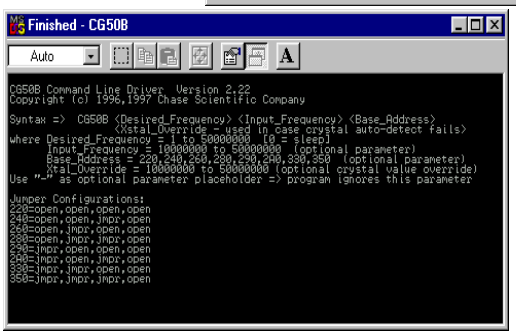
CG50 50MHZ FREQUENCY SYNTHESIZER

CG50 BLOCK DIAGRAM

Pick your interface.

Windows 95
or
Windows NT





DOS

Plus DLL and driver software.

SPECIFICATIONS & TECHNICAL DATA

TTL CLOCK OUTPUT (BNC#1)

Output Frequency (software programmable):

Range:	1 Hz - 50 MHz.
Resolution:	1 Hz over full range of output and input frequencies
Duty Cycle:	50% typical, 40% < DS < 60% worst case
Jitter:	< 100 psec RMS (output edge to edge) for frequencies > 1 MHz
	< 0.05UI at 1 KHz - 100 KHz for frequencies > 1 MHz
TRise/TFall:	6 ns / 6 ns Typical
Output Type:	Fast TTL w/~50 ohms series R

TTL CLOCK OUTPUT (BNC#2)

Same as BNC#1

USER INPUT CLOCK FEATURE (BNC#3)

Input Frequency
(Ext./Internal Clock selectable through software):

Input Freq. Range:	20 MHz - 50 MHz (phase locked on board)
Amplitude Range:	0.2Vpp to 2Vpp (AC coupled input)
Duty Cycle Req.:	40% < Duty Cycle < 60%
Output Range:	0.012 Hz to 50 MHz (same as standard)

ON-BOARD CLOCK OSCILLATOR

Reference Frequency:

Frequency:	20 MHz
Accuracy:	1-ppm maximum, 0-50°C, 5V +/- 10%
Aging:	Less than or equal to 1-ppm/yr at 30°C

GENERAL

Temperature:

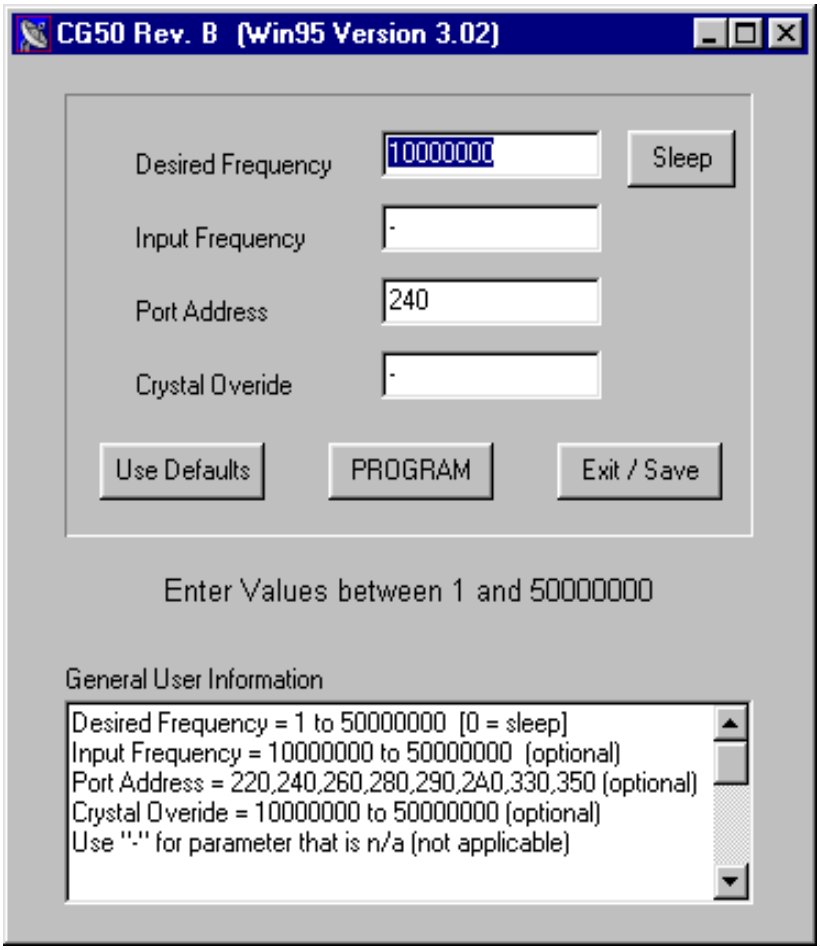
Operating:	0-50° C
Storage:	-40 to +100° C
Power:	+12V +/- 5% @ 0.375 Amps (4.50 Watts Typical)
	+5V +/- 10% @ 0.364 Amps (1.82 Watts Typical)
	-12V +/- 5% @ 0.125 Amps (1.50 Watts Typical)

ORDERING INFORMATION

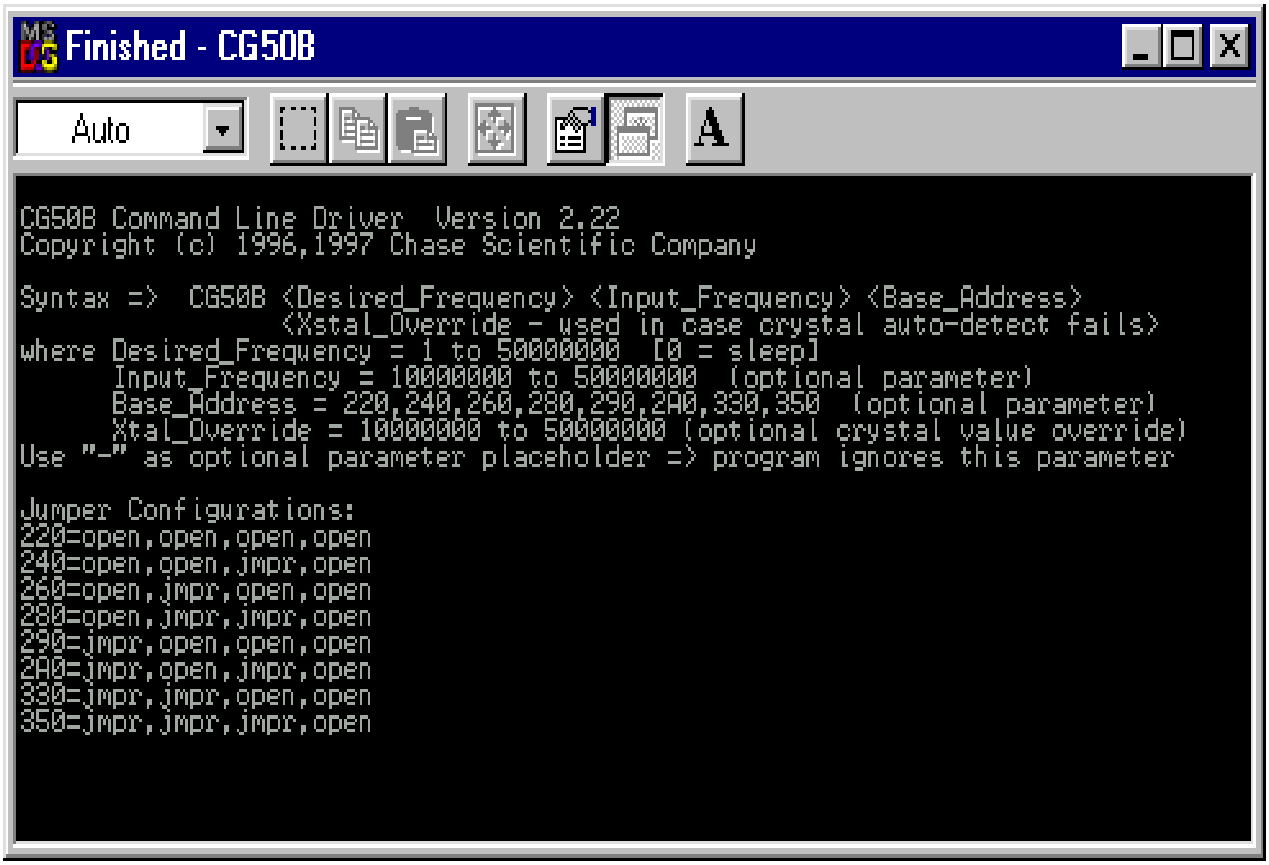
Model Number	Description
CG50	1-50 MHz frequency synthesizer, 1ppm. Half card AT bus form factor. DOS command line driver, Win 95/ NT DLL and GUI on 3.5" diskette, users' manual.

Chase Scientific Company

P.O. Box 1847, Langley, WA 98260 Tel: (360) 221-8455 Fax: (360) 221-8457 Email: sales@chase2000.com Web: www.chase2000.com



Windows 95
or
Windows NT...



DOS ...