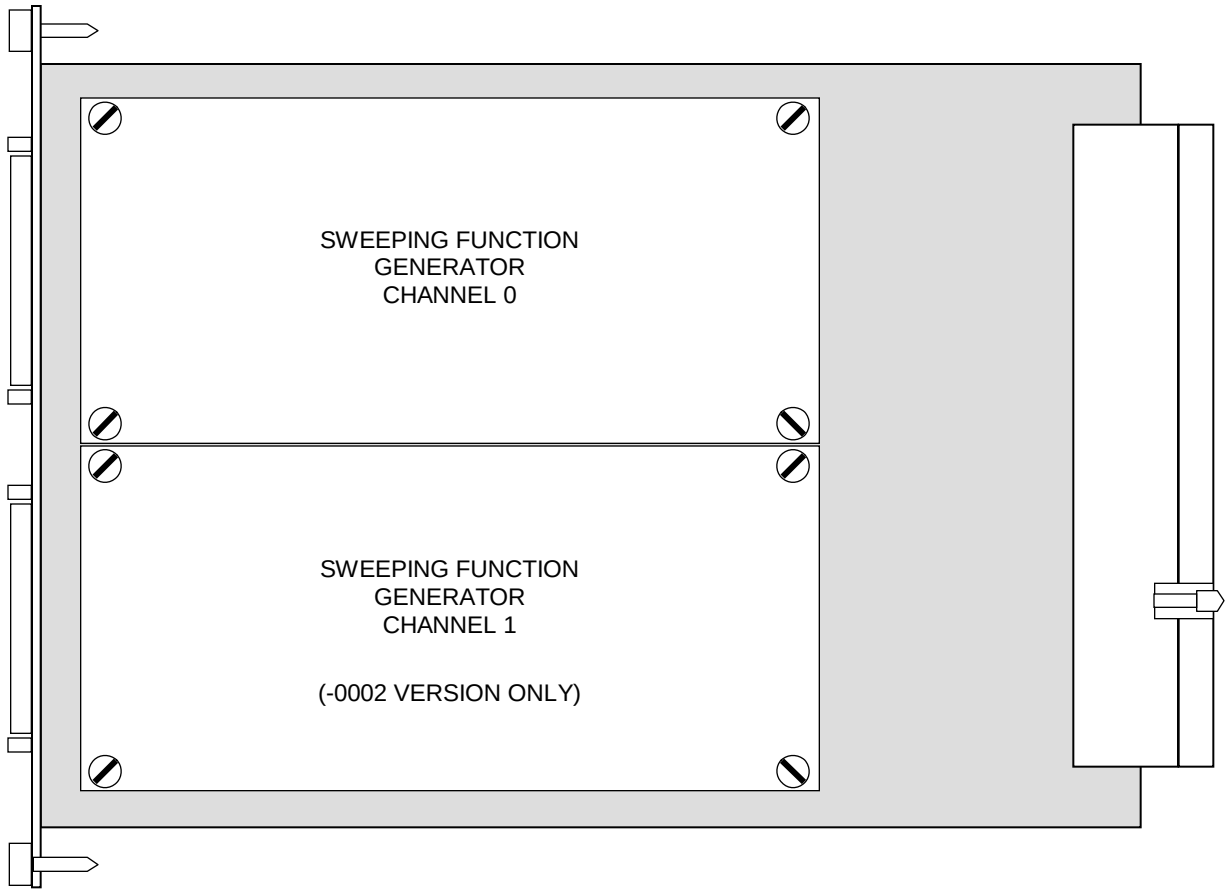
PX463S PXI Sweeping Function Generator

Assembly P/N 11029160

DESCRIPTION

The PX463S is a single or dual channel function generator that produces a sine, square, triangle, or sawtooth waveform up to 1MHz. The frequency, amplitude, and offset can be varied at a programmable sweep rate. Fixed, single ramp, single cycle, and continuous cycle modes along with programmable dwell times allow autonomous control in most test situations. An external input can be used to synchronize the cycle start with external events.

The PX463S is an integration of one or two IP202S IP modules and a PX403S PXI IP module carrier as shown below. One IP202S is used for the -0001 single channel version and two IP202S's are used for the -0002 dual channel version. Each IP202S provides one function generator channel. The PX403S provides the electrical and mechanical interface to a PXI backplane and chassis.



SOFTWARE CONFIGURATION AND CONTROL

A software driver for the PX463S is available for download on C&H's website. The driver uses the VISA I/O library and includes an interactive soft front panel that can be used to operate the PX463S. The driver provides a library of function calls for initializing, configuring, and operating the instrument. The library is provided in formats for most popular development environments as well as in a Windows DLL format.

Also available for download on C&H's website is the Interactive Mezzanine Control (IMC) software. IMC is a Windows application that provides low-level access to any mezzanine module on any one of C&H's carriers. IMC can be a very useful tool during software development and debug.

SPECIFICATIONS

Number of Channels: 1 or 2

Output Waveforms:

Sine, Square, Triangle, Sawtooth

Frequency:

Accuracy: [1]	1.0%
Range Resolution	
0 to 1KHz	1Hz
0 to 10KHz	10Hz
0 to 100KHz	100Hz
0 to 1MHz	1KHz

Sweep Operation:

- Fixed, single ramp, single cycle, and continuous cycle
- Full range sweeps from 160ms to over 50 seconds
- Frequency sweeps exponentially, amplitude and offset sweep linearly

Dwell Time:

Programmable dwell time from 1ms to 64 seconds

Direct Output:

Impedance	<1.0Ω
Current	±50mA
Amplitude Range	0 to 10Vpp
Offset Range	±5V
Ampl. & Offset Resolution	39mV
Ampl. & Offset Accuracy [2]	±7%

Transformer Output:

Impedance (10K:10K)	1KΩ
Response (300Hz-50KHz)	±2dB

I/O Connector(s):

50-pin Shielded AMP Champ 0.8mm Type (787096-1)

Notes:

1. For frequencies >1% of range full-scale
2. Or 100mV, whichever is greater

ELECTRICAL

The electrical interface is compliant with the PXI bus specification Rev 1.0 and cPCI Specification 2.0 R2.1. The module supports both 5V and 3.3V signaling voltages (VIO). Full PXI trigger support is provided.

Power: (-0001/-0002)

+3.3V	100mA / 100mA
+5V	500mA / 650mA
+12V	60mA / 120mA
-12V	60mA / 120mA

MECHANICAL

The mechanical dimensions of the module are in conformance with the PXI bus specification Rev 1.0 for single slot 3U-form factor Modules. The nominal dimensions are 100.0 mm (3.94 in) high x 160 mm (6.3 in) deep. The module is designed for a mainframe with 20.32 mm (0.8 in) spacing between slots. As required by the PXI bus specification, these dimensions are in accordance with those given in the CPCI bus specification (PICMG 2.0 Rev 2.1).

ENVIRONMENTAL

Operating Temperature:	0°C to +50°C
Storage Temperature:	-40°C to +70°C
Humidity:	<95% without condensation

DOCUMENTATION

This document discusses the general use of the PX463S integrated module. For full details on each of the individual modules used in the PX463S, please refer to the User Manual for that particular module.

Document Description	Website
IP202S User Manual	www.chtech.com -> Support -> Product Manuals -> Source -> IP202S
PX403S User Manual	www.chtech.com -> Support -> Product Manuals -> Carrier -> PX403S

The IP202S User Manual discusses two versions of the module. The PX463S comes configured with the -0002 (with transformer coupled output) version of the IP202S; therefore, use only those specifications that apply to the -0002 version of the IP202S.

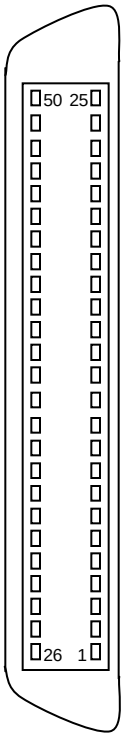
HARDWARE CONFIGURATION

The default IP202S Factory Switch Settings are:

Software Controlled Duty Cycle:	Enabled
Strobe Input Threshold Level:	TTL (0.8V)
Strobe Input Impedance:	High (>10KΩ)
Transformer Output:	Enabled

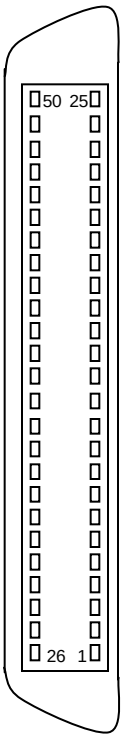
I/O CONNECTOR

Below is the signal list for the two connectors located on the front panel of the PX463S. For more details on each signal, refer to the IP202S User Manual.



Top Connector

PIN	SIGNAL	PIN	SIGNAL
50	GND	25	GND
49		24	+5V0
48		23	+12V0
47		22	-12V0
46		21	
45		20	
44		19	
43		18	
42		17	
41		16	
40		15	
39	GND	14	EXTDC0
38		13	GND
37	GND	12	EXTSTB0-
36		11	GND
35		10	TOUTL0
34		9	GND
33		8	TOUTH0
32		7	GND
31	GND	6	
30		5	GND
29	GND	4	OUT0
28		3	GND
27		2	
26	GND	1	GND



Bottom Connector (-0002 only)

PIN	SIGNAL	PIN	SIGNAL
50	GND	25	GND
49		24	+5V1
48		23	+12V1
47		22	-12V1
46		21	
45		20	
44		19	
43		18	
42		17	
41		16	
40		15	
39	GND	14	EXTDC1
38		13	GND
37	GND	12	EXTSTB1-
36		11	GND
35		10	TOUTL1
34		9	GND
33		8	TOUTH1
32		7	GND
31	GND	6	
30		5	GND
29	GND	4	OUT1
28		3	GND
27		2	
26	GND	1	GND