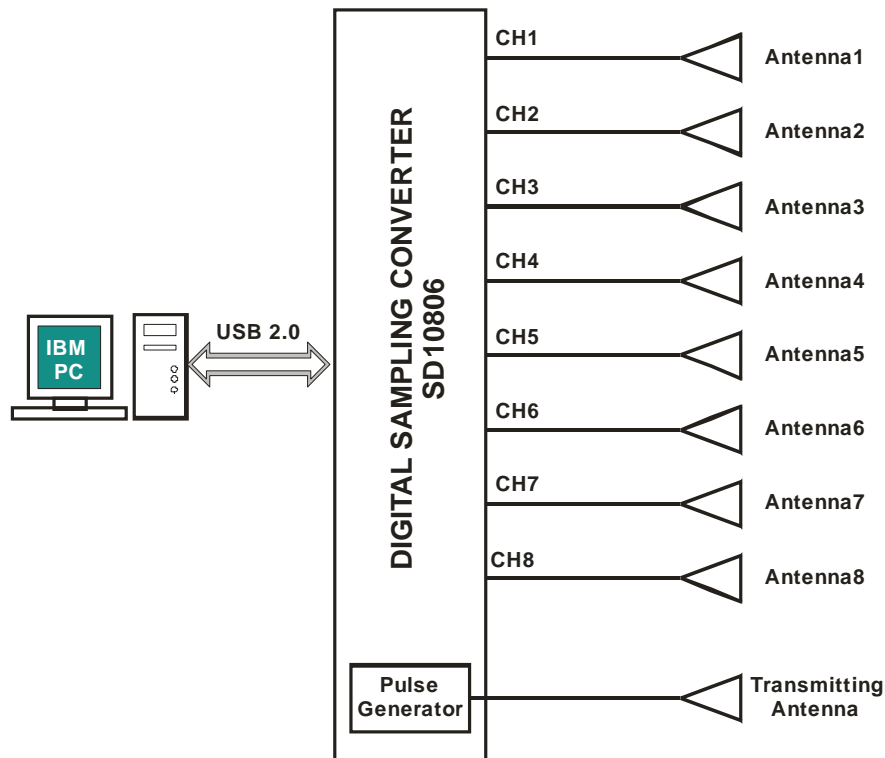


# DIGITAL SAMPLING CONVERTER SD10806 WITH POWER SUPPLY UNIT GZ8012PSD

## 1. Applications

- Receiver of UWB Radar with computer control of beam direction;
- Receiver of UWB multichannel antenna measurement system for antenna array tuning.



## 2. Main Features

- Super wide Frequency Band;  
*Options 0.1÷6 GHz; 0.1÷12 GHz; 0.1÷18 GHz; 0.1÷20 GHz – all possible*
- Amplitude and phase measurement possibility;  
*No drift between channels;*
- Ultra high sensitivity;  
*Option with 35 dB input amplifiers in each channel is available.*

### 3. Appearance

The Digital Sampling Converter contains 8 channels.  
Channels include wideband amplifier at their inputs (optional).



Appearance of Digital Sampling Converter



Digital Sampling Converter with open cover.  
Compartment containing wideband amplifiers

## 4. Technical Specifications

	Name of parameter	Required value	Notes
<b>1.</b>	<b>General parameters of Sampling Converter</b>		
1.1.	Number of channel	8	
1.2.	Bandwidth	0.1-6 GHz (0.1-20 Optional)	Without amplifier
		0.2-6 GHz	With amplifier
1.3.	Sampling rate	500 kHz	
1.4.	Isolation between channels	60 dB @ 1 GHz	
1.5.	Noise (rms) after substitution of 0 line	1,5 mV	
1.6.	Dynamic range	±1 V	
1.7.	ADC discrete value	12	
1.8.	Time window, max	20 ns	
1.9.	Time delay, max	100 ns	
1.10.	System time drift	< 15ps/hour	Without software compensation
1.11.	Jitter, rms	2.6 ps	with Generator
1.12.	Accuracy of amplitude measurement	2 mV +0.02Ux (Ux < 700 mV) 0.05 Ux (Ux > 700 mV)	Without amplifier @DC
1.13.	Accuracy of time measurement (0.3 -18 ns)	±(10 + 0.001T)ps	
1.14.	Number of points	4096 max	
1.15.	Number of averaging (dot, period & combined)	up to 1 K	
1.16.	Time resolution	4-50 ps/point	
1.17.	External radiation level in 0.3-4 GHz frequency band at 1 m distance	< 1 mV	
1.18.	Zero line variation with matched load	1 mV	
1.19.	Input of channels	50 Ohm, SMA connectors with waterproof cups	
1.20.	VSWR	1.5	Without amplifier
		2	With amplifier
<b>2.</b>	<b>Software &amp; Interface</b>		
2.1.	Interface type	<b>USB-2, LPT</b>	selectable
2.2.	Control commands	Supplied as DLL (MARCHA , CMARCHA Optional)	DLL don't require MARCHA program
2.3.	Operational system	Windows XP	
<b>3.</b>	<b>Pulse generator head</b>		
3.1.	Type	Step	
3.2.	Frequency band	0.3 -6 GHz	
3.3.	Amplitude, at least	40 V	
3.4.	Rise time	90 ps	
3.5.	Duration	1.2 ns	
3.6.	Ripples, max	5%	
3.7.	PRF	500 kHz	
3.8.	Additional output of derived pulse for phase stabilization	<1 V Shape is similar to original pulse	
3.9.	Custom variation of Generator and Sampling Converter triggering and phase stabilization delay lines.	l~ 5 m	
<b>4.</b>	<b>Environments</b>		
4.1.	Temperature range	- 5 - +35°C	
4.2.	Safety class	IP 63	
4.3.	Power supply connectors	Waterproof	
<b>5.</b>	<b>Mechanical parameters</b>		
5.1.	Sampling Converter	Monoblock With integrated generator head and 7 input amplifiers (power consumption 200 mA each)	
5.2.	Weight of sampling converter + generator head	15 kg	
5.3.	Dimensions	410x360x260 mm	

5.4.	Power supply	DC 12 V + external AC/DC transducer (230 ± 10%)V with 13 m flexible cable	
5.5	Access to amplifiers	Easy	
5.6	Indicators	Of DSP & RF electronics operation	Indicators <b>DSP</b> <b>LINK</b> <b>DC POWER</b>

## 5. Complete set of Instrument

1	Digital Sampling Converter <b>SD10806</b>
2	Power Supply Unit <b>GZ8012PSD</b>
3	Interface cables ( <b>LPT</b> and <b>USB</b> )
4	RF cable for generator triggering
5	DLL for Operation control
6	Technical documentation
7	Power Cord
8	Power Cable
9	USB-2.0 Interface card for PC certified for High Speed USB-2.0 operation