## DIGITAL STORAGE OSCILLOSCOPE

## Model Number: GOTT-DSO 1000 SERIES



#### **FEATURES APPLICATION:**

- 500MSa/s & 1GSa/s Sampling Rate
- 2 Channels
- 7" Widescreen LCD Color Display (ADS1022C: 5.7 in)
- USB Host/Device: Support USB Printer and USB Flash Drive
- PictBridge Function
- Easy scope Software
- 12 Languages
- Industrial Power Design, Troubleshooting, Installation, and Maintenance.
- Electronics Design, Troubleshooting, Installation, and Maintenance
- Circuit Design & Debug
- Educational Lab & Training Institutions
- Repair & Service
- **Production Test & Quality Inspection**

	CIFICATIONS :					1	
Model	1202CL+	1202CML	1152CML	1102CML	1062CML	1042CML	1022CL+
Bandwidth	200MHz		150MHz	100MHz	60MHz	40MHz	25MHz
Sampling Rate	500Msa/s			1Gsa/s			500Msa/s
Equvalent		50Gsa/s				10Gsa/s	
Memory	5Kp	ots/CH	Single Channel:2Mpts;Double Channels:1Mpts				40Kpts
Rise Time	<	:1.8ns	<2.3ns <3.5ns <5.8ns <8.8ns			<14ns	
Input Impedance	1M Ohm   17Pf	1M Ohm   14Pf/50O	1M Ohm   17Pf				
Sec/div Range		2.5ns/div-50s/div			5ns/div- 50s/div	10ns/div- 50s/div	2.5ns/div-50s/div
				Scan:10	00ms-50s/div		
Display	7"LCD Color(480*234)						

GENERAL SPECIFICAT	IONS:			
DISPLAY		ENVIRONMENTS		
<ul> <li>Display Mode</li> </ul>	Color TFT 7in diagonal Liquid Crystal Display	Temperature		
<ul> <li>Resolution</li> </ul>	480 horizontal by 234 vertical pixels	<ul> <li>Operating</li> </ul>	10°C to + 40°C	
Display Color	64K color	Not operating	-20°C to +60°C	
Display Contrast	(Typical state) 150:1	Humidity		
<ul> <li>Backlight Intensity</li> </ul>	(Typical state) 300nit	<ul> <li>Operating</li> </ul>	85%RH, 40°C, 24 hours	
<ul> <li>Resolution</li> </ul>	480 horizontal by 234 vertical pixels	Not operating	85%RH, 65°C, 24 hours	
• Wave display range	8 x 18 div	Height		
Wave Display Mode	Point, Vector	<ul> <li>Operating</li> </ul>	3000m	
Point Vector Off	1 sec, 2 sec, 5 sec, Infinite	<ul> <li>Not operating</li> </ul>	15,266m	
Menu Display	2 sec, 5 sec, 10 sec, 20 sec, Infinite			
Skin Succinct				
Screen saver	1min, 2mins, 5mins, 10mins,15mins, 30mins, 1hour, 2hours,5hours,off	POWER SUPPLY		
		Input Voltage	100-240 VAC, CAT II, Auto selection	
• Waveform	Interpolation Sin(x)/x, Linear	Frequency Scope	45Hz to 440Hz	
* Color model	Normal and Invert	• Power	50VA Max	
<ul> <li>Language</li> </ul>	English, French, German, Russian, Spanish,	Mechanical		
	Simplified Chinese, Traditional Chinese,	Dimension		
	Portuguese, Japanese, Korean, Italian, Arabic	• LxWxH	399mm 110.5mm 148.5mm	
<ul> <li>Interface</li> </ul>	USB Host, USB Device, RS232, Pass/Fail output	• Weight 2.4 kg		



# **DIGITAL STORAGE OSCILLOSCOPE**

Model Number: GOTT-DSO 1000 SERIES

VERTICAL SYSTEM		HORIZONTAL SYSTEM	
Vertical Sensitivity	2mV-10V/div at input BNC (1-2-5 order)	• Real Time Sampling Rate	Single Channel 1GSa/s; Double Channels
vertical Sensitivity	2mV-5V/div (ADS1202CML / 1022C)	Real Time Sampling Nace	1GSa/s (ADS1202CML)
• 61 1 11 11	, , ,		, , , ,
Channel voltage offse	et range 2mV-200mV: ±1.6V , 206mV-10V: ±40V		Single Channel 1GSa/s; Double Channels 500MSa/s (ADS1000CCML Series)
	in Fixed Gain Ranges & Variable Gain Ranges		· · · · · · · · · · · · · · · · · · ·
Vertical Resolution	8 bit		Single Channel 500MSa/S; Double Channel
• Channel	2		250MSa/s (ADS1022C)
Analog Bandwidth	(at input BNC)	Equivalent Sampling Rate	50GSa/s
<ul> <li>Bandwidth</li> </ul>	ADS1202CML - 200MHz , ADS1152CML - 150MHz ADS1102CML - 100MHz , ADS1062CML - 60MHz	Measure Display Modes	MAIN, WINDOW, WINDOW ZOOM, Scan, X
•	ADS1042CML - 40MHz , ADS1042CML - 25MHz	Time base Accuracy	±100ppm measured over 10ms interval
BW Flatness		Time Window	18 Divisions
DC-10% of rated BW	±1DB	Horizontal Scan Range	ADS1202CML ADS1152CML ADS1102CML
• 10%-50% of rated BW	/ ±2DB		ADS1062CML ADS1042CML ADS1022CML
• 50%-100% of rated B	W ±3DB		2.5ns/div - 50s/div , 5 ns/div - 50s/div
<ul> <li>Lower frequency limit</li> </ul>	t (AC - 3dB)		10 ns/div - 50s/div , 25ns/div - 50s/div
10Hz	(at input BNC)	Scan: 100ms/div -50s/div	
• Noise	Pk-Pk for 3K record	INPUT	(2 2.0 0 004400.100)
Noise	0.6Div for average of 10Pk-Pk	Input Coupling	AC, DC, GND
	readings in fixed gain settings.	Input Impedance	, 2-0, 02
	<=0.7 Div for average of 10 Pk-Pk	• DC	1M_+/-2%    17pF +/-3pF
	readings, Variable gain settings	• AC	1.2M_+/-2%    17pF +/-3pF, <=100mV/div
SFDR	including harmonics _40dB		1.0M_+/-2%    17pF +/-3pF, >100mV/div
DC Gain Accuracy :	< ±3.0%: 5mV/div to 5V/div in Fixed Gain Ranges	Maximum Input Voltage	±400V PK-PK CATI
DC Measurement Accu	< ±4.0%:typical for 2mV/div&Variable Gain Ranges lracy: All Gain settings 100mV/div	<ul> <li>Ch to Ch Isolation</li> <li>Channels in same V/div so</li> </ul>	(Both)
De Medsarement Acce	±[3%X ( reading + offset ) +1% of  offset	enannels in same tyant s	100: 1 at 20MHz (ADS1042CML)
	+0.2div+2mV]		100: 1 at 100MHz (ADS1202CML),
Rise time, Typical	(using 500ps pulse)		>100: 1 at 70MHz (ADS1152CML),
Bandwidth	ADS1202CML - <1.8ns , ADS1152CML - <2.3ns ADS1102CML - <3.5ns , ADS1062CML - <5.8ns		100: 1 at 50MHz (ADS1102CML),
	ADS1042CML - <8.8ns , ADS1002CML - <14ns		> 100: 1 at 30MHz (ADS1062CML)
	7,8510 126WE 40.0H5 , 7,8510226 WE 41 H5	Probe attenuator	1X, 10X
Math operation	+,-, *,FFT	Probe attenuator	1X, 10X, 100X, 1000X
<ul><li>FFT Window mode</li><li>Sampling points</li></ul>	Hanning, Hamming, Blackman, Rectangular 1024	HARD WARE FREQUENCY	
Bandwidth limiter	1024	<ul><li>Reading resolution</li><li>Accuracy</li></ul>	6 Bytes ±0.01%
20MHz ±40% Typical		Range	DC Couple 10Hz to MAX Bandwidth
Zolvinz ±40% Typicul		Signal Types	Satisfying all Trigger signal (Except Pulse
CONTROL PANEL FUNCT	TION	Signal Types	width trigger and Video Trigger)
Auto Set	Auto adjusting the Vertical,		
Auto Set	Horizontal system and Trigger Position	A COLUCITION SYSTEM	
Save/Recall		Sample Types	Pool time Equivalent time
<u> </u>	2 Group referenced Waveforms,	Sample Types     Mamory Donth	Real time, Equivalent time
Support	20 Group setups, 20 Group captured	Memory Depth     ADS1202CML	5Knts / CH
		ADSTAUZCIAIT	5Kpts / CH
	Waveforms internal	ADS1000CML Series	Single Channel 2Mpts,
	Recall function and USB flash driver	ADS1022C	Single Channel 4Kpts ;
Storage	storage function.		ADS1000CML Series



# DIGITAL STORAGE OSCILLOSCOPE

Model Number: GOTT-DSO 1000 SERIES

GENERAL SPECIFICAT	TIONS:			
TRIGGER SYSTEM		CHANNEL MODE SAMPI	LING RATE	
<ul> <li>Trigger Types</li> </ul>	Edge, Pulse Width, Video, Slope, Alternative	Long and Short Memory		
Trigger Modes	Auto, Normal, Single	Single Channel	1Gsa/s 40kpts No Support	
Trigger Sources	Ch1-2, EXT, EXT/5, AC Line		500MSa/s or lower 40kpts 2Mpts	
Trigger Coupling	AC, DC, LF rej, HF rej	Double Channels	500MSa/s or lower 20kpts 1Mpts	
Trigger Level Range	CH1, CH2 ±6divisions from center of screen	Sample Mode	Sample, Peak Measure, Average	
• EXT: ±1.2V		<ul> <li>Averages</li> </ul>	4,16,32,64,128,256	
• EXT/5: ±6V				
Trigger Level Accura	cy (typical) applicable for the	MEASURE SYSTEM		
signal of rising and fa	alling time 20ns	Auto Measure		
• Internal	±(0.2 div x V/div) ( within±4 divisions from center of screen)	Vpp, Vmax, Vmin, Vamp, Vtop, Vbase, Vavg, Mean, Crms, Vrms, ROVShoot, FOVShoot, RPREShoot,		
• EXT	±(6% of setting + 40 mV)	• FPREShoot, Rise time, F	Fall time Freg Period	
• EXT/5	±(6% of setting + 200 mV)	' '	, Bwid, Phase, FRR, FRF, FFR,	
Edge Trigger	Edge type Rising, Falling, Rising and Falling	• FFF,LRR,LRF, LFR, LFF		
Pulse Width Trigger		Cursor Measure Manual mode,		
Trigger Modes	(>, <,=) Positive Pulse Width,	Track mode and Auto r	node	
	(>,<,=) Negative Pulse Width			
<ul> <li>Pulse Width Range</li> </ul>	20ns-10s	TRIGGER SYSTEM		
<ul> <li>Video Trigger</li> </ul>	Support signal Formats -PAL/SECAM, NTSC	<ul> <li>Slope Trigger</li> </ul>	(>,<,=) Positive slope, (>,<,=) Negative Slope	
<ul> <li>Trigger condition</li> </ul>	odd field, even field, all lines, line Num	• Time: 20ns-10s		
<ul> <li>CH2 trigger type</li> </ul>	Edge, Pulse, Video, Slope	<ul> <li>Alternative Trigger</li> </ul>	CH1 trigger type: Edge, Pulse, Video, Slope	

### Manuals:

- (1) All manuals are written in English
- (2) Model Answer
- (3) Teaching Manuals

#### **General Terms:**

- (1) Accessories will be provided where applicable.
- (2) Manual & Training will be provided where applicable.
- (3) Design & specifications are subject to change without notice.
- (4) We reserve the right to discontinue the manufacturing of any product.

Warranty: 2 Years

## **ORDERING INFORMATION:**

ITEM	MODELNUMBER	CODE
DIGITAL STORAGE OSCILLOSCOPE	GOTT-DSO 1000 SERIES	047-000
	GOTT-DSO-1202CL+	047-001
	GOTT-DSO-1202CML	047-002
	GOTT-DSO-1152CML	047-003
	GOTT-DSO-1102CML	047-004
	GOTT-DSO-1062CML	047-005
	GOTT-DSO-1042CML	047-006
	GOTT-DSO-1022CL+	047-007

\* Proposed design only, subject to changes without any notice.