

12.2.3 MEMORY Y-T Mode (WR5020)

- Memory capacity For 8 Memory channels: 32 kwords/Ch.
 For 4 Memory channels: 64 kwords/Ch.
 For 2 Memory channels: 128 kwords/Ch.
 For 1 Memory channel : 256 kwords/Ch.
- Time-axis resolution 8 dots/mm (Factor setting = 1)
 4 dots/mm (Factor setting = 2)
 2 dots/mm (Factor setting = 4)
 16 dots/mm (Factor setting = 1/2)
 32 dots/mm (Factor setting = 1/4)

Recording length (Memory Length)

Recording length	No. of Memory channels	Selectable Length settings
50 - 400 cm	8	50 × (1, 2, 4, 8) cm
100 - 800 cm	4	100 × (1, 2, 4, 8) cm
200 - 1600 cm	2	200 × (1, 2, 4, 8) cm
400 - 3200 cm	1	400 × (1, 2, 4, 8) cm

Recording time $\boxed{\text{Memory Length}} + \boxed{\text{Equivalent chart speed}}$

- Equivalent chart speeds 8, 4, 2, 1, 0.4, 0.2, 0.1, 0.04m/s (×4, ×2, ×1, ×1/2, and ×1/4 using the Factor parameter)
- Partial output range 0-100% can be selected in 10% steps
- Interpolation function Line
- Grid patterns A choice of eight types
- Chart feed speed Fixed to 20mm/s
- Channel numbers Printed near the corresponding waveforms when recording multiple channels per grid
- Types of annotation Trigger markers, channel annotation, reference lines, scale labels, list, trigger time, trigger delay, external events, chart speed, distance marks
- Frequency response DC to 10 kHz (-3 dB)
- Sampling cycle Subsampling : Fixed to 15.625 μs (64 kHz)
 Memory sampling: Based on the chart speed setting as listed in the table below

(Unit)

Chart speed	8	4	2	1	0.4	0.2	0.1	0.04	(m/s)
Sampling rate	15.625	31.25	62.5	125	312.5	625	1250	3125	(μs)

During each memory sampling cycle, the maximum and minimum values of each subsampled datum are stored in memory.

12.3 TRIGGER Functions (WR5020)

Trigger modes	Manual, External, A only, B only, A OR B, A and B, All OR, All AND
Trigger conditions	Manual: When the START/STOP key is pressed or by TGO input from the computer. External: When a low TLL-level signal is input or shorted to ground level. Other modes: When the specified trigger conditions are satisfied.
Trigger channels	Specifiable as any individual channel (1-8) or combinations (AND, OR)
Trigger slope	\uparrow (rising edge), \downarrow (falling edge)
Trigger level	Specifiable from 0% to 100% in 1% steps
Trigger functions	Trig Start (Starts DIRECT recording) Trig Stop (Stops DIRECT recording) Rec. Length (Starts DIRECT recording and stops after the specified length) Rec. Time (Starts DIRECT recording and stops after the specified time) Trig Mem (Starts DIRECT recording while simultaneously capturing the data)
Recording time	00:00:00 (seconds) to 23:59:59
Recording length	10 to 9990 mm
Trigger delay	-100% to +100%
Trigger action	Single, repeat

12.4 Other Functions

Operation	Interactive operation via panel keys and LCD, with separate panel keys for setting the chart speed
List recording	Lists the current settings of date/time, data no., recording format, recording Start/Stop times, chart speed, annotation, on/off status of event markers and timing markers
Annotation	Up to 32 characters/channel can be set
Clock functions	Time/date are recorded and displayed based on an internal clock
Clock accuracy	± 200 ppm (at 23°C)
Backup functions	Measurement conditions : Stored in non-volatile memory. Time/date : Backup battery for the internal clock (approx. 2 month life when fully charged).
Computer interface	Measurement conditions and captured data can be transferred with a computer via a GP-IB interface
User-defined scale	User-defined scale labels of up to eight characters can be set for each channel
Timing markers	A timing marker can be recorded at one of eight intervals: Off, 1sec, 10sec, 1min, 10min, 1hour, 10hour, or External
Event markers	The HIGH and LOW levels of event input via the REMOTE connector can be recorded for each channel. An OR operation initiates event marker recording based on REMOTE input or the EVENT key.
REMOTE mode	Operations that can be performed from an external device include: input of START/STOP signals, EXT. CLOCK pulses, and event markers; TRACE ON/OFF signals for individual channels; input/output of timing markers.

12.5 Amp Unit (AL5000) Specifications

Input configuration	Floating ground with guard wire
Input voltage ranges	20, 50, 100, 200, 500 mV full scale 1, 2, 5, 10, 20, 50, 100, 200, 500 V full scale
Max. allowable input voltage	Between (+) and (-) terminals : 500 V(DC and ACp-p) Between terminals and case : 250 Vrms
Input impedance	Fixed at 1M Ω between (+) and (-) terminals
Zero point setting	Can be set to any position within full scale
Gain adjustment.....	Continuously variable over the measurement range
Voltage accuracy	$\pm 0.5\%$ of full scale
Error between ranges	$\pm 1\%$ of full scale
Input filtering	Low-pass filter : 500 Hz (-3 dB \pm 1 dB) : 50 Hz (-3 dB \pm 1 dB)
Temperature coefficient.....	Zero drift: 0.03% of full scale
Common-mode rejection ratio	90 dB (typical) at 50/60 Hz

12.6 External Views

