

AL SERIES

ANALOG OSCILLOSCOPES



YOKOGAWA 



- 2 Channels, 4 Traces : DC – 50MHz (AL540)
DC – 30MHz (AL300)
- 1mV / div – 20V / div
- CRT Readout
- Cursor Measurement, 6 Digit Frequency Counter, 10 Sets Memory for Front Panel Setting Save & Recall
- ALT MAG Function (x 5, x 10, x 20)
- Vertical Mode Triggering
- TV Synchronization
- CH1 Signal Output, Z-axis Input
- Buzzer Alarm & LED Indicators
- Compact Size (275W x 130H x 370D mm) and Front Panel Layout Groups For Easy To Use

AL 540 AL 300

CRT

Type	: 6-Inch Rectangular Type With Internal Graticule; 0%, 10%, 90%, 100% Markers 8 x 10 div (1div=1cm)
Accelerating Potential INTEN and FOCUS Illumination	: AL540 : Approx. 10kV; AL300 : Approx. 2kV : Front Panel Control : Provided
Trace Rotation	: Provided
Z-Axis Input	: Sensitivity : At Least 5V Polarity : Positive Going Input Decrease Intensity
	Usable Frequency Range : DC to 2 MHz Max. Input Voltage : 30V (DC + AC Peak) At 1kHz or less Input Impedance : AL540 : Approx. 33kΩ ; AL300 : Approx. 47kΩ

Vertical System

Sensitivity And Accuracy	: 1mV – 2mV / div ± 5%, 5mV – 20V / div ± 3%, 14 calibrated steps in 1-2-5 sequence
Vernier Vertical Sensitivity	: Continuously Variable To 1/2.5 Or Less Of Panel Indicate Value

Bandwidth (-3dB) &
Rise Time

		Bandwidth (-3dB)	Rise Time
AL540	5mV – 20V / div	DC – 50MHz	Approx. 7nS
	1mV – 2mV / div	DC – 7MHz	Approx. 50nS
AL300	5mV – 20V / div	DC – 30MHz	Approx. 11.7nS
	1mV – 2mV / div	DC – 7MHz	Approx. 50nS

Maximum Input Voltage	: 400V (DC + AC Peak) At 1kHz or Less
Input Coupling	: AC, DC, GND
Input Impedance	: 1MΩ ± 2% //approx. 25pF
Vertical Modes	: CH1, CH2, DUAL (CHOP, ALT), ADD, CH2 INV
Chop Frequency	: Approx. 250kHz
Dynamic Range	: AL540 : 8 div At 40MHz, 6 div At 50MHz; AL300 : 8 div At 20MHz, 6 div At 30MHz

Horizontal System

Sweep Time	: 0.2μs / div – 0.5s / div, 20 steps selectable in 1-2-5 sequence, continuous variable control between steps at least 1:2.5
Accuracy	: ± 3%, ± 5% at x5 / x10MAG, ±8% At x20MAG
Sweep Magnification	: x5, x10, x20MAG
Maximum Sweep Time (at MAG)	: AL540 : 20ns / div (10ns / div are uncalibrated) AL300 : 50ns / div (10ns / div – 40ns / div are uncalibrated)
ALT-MAG Function	: Available

Accessories

Power Cord x 1, Instruction Manual x 1, GLF-190C Probes (10:1 / 1:1) x 2

Trigger

Trigger Mode	: AUTO, NORM, TV
Trigger Source	: VERT-MODE, CH1, CH2, LINE, EXT
Trigger Coupling	: AC, HFR, LFR, TV-V(-), TV-H(-)
Trigger Slope	: "+" or "-" polarity
Trigger Sensitivity	:

	AL540	20Hz – 5MHz	5MHz – 40MHz	40MHz – 50MHz
AL300	20Hz – 2MHz	2MHz – 20MHz	20MHz – 30MHz	
CH1, CH2	0.5 div	1.5 div	2.0 div	
VERT-MODE	2.0 div	3.0 div	3.5 div	
EXT	200mV	800mV	1V	

TV Sync Pulse More Than 1 div (CH1, CH2, VERT-MODE) or 200mV (EXT)

External Trigger Input	: Input Impedance : Approx. 1MΩ //25pF (AC Coupling) Max. Input Voltage : 400V (DC + AC Peak) at 1kHz
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Hold-Off Time : Variable

X-Y Operation

Input	: X-Axis : CH1; Y-Axis : CH2
Sensitivity	: 1mV / div – 20V / div
Bandwidth	: X-axis : DC – 500kHz (-3dB)
Phase Difference	: 3° or less from DC to 50kHz

Output Signal

CH1 Signal Output	: Voltage : Approx. 20mV / div (with 50Ω Termi- nated); Bandwidth : 50Hz To At Least 5MHz
Calibrator Output	: Voltage : 0.5V ± 3%; Frequency : Approx. 1kHz, Square Wave

CRT Readout

Panel Setting Display	: CH1 / CH2 Sensitivity, Sweep Time, Trigger Condition
Panel Setting Save & Recall	: 10 Sets
Cursor Measurement	: Cursor Measurement Function : ΔV, ΔT, 1/ΔT Cursor Resolution : 1/25 div; Effective Cursor Range : Vertical : ± 3 div; Horizontal : ± 4 div
Frequency Counter	: Display Digits : Max. 6 Digits Decimal Frequency Range : AL540 : 50Hz – 50MHz; AL300 : 50Hz – 30MHz; Accuracy : ± 0.01% Measuring Sensitivity : More Than 2 div (Measuring Source Selected From CH1 Or CH2 As Synchronous Signal Sources)

Power Source

AC 100V / 120V / 230V ± 10%, 50 / 60 Hz

Dimensions & Weight

275(W) x 130(H) x 370(D)mm; Approx. 7.2kg

Oscilloscope Model		Suffix Codes	
AL210E	366520	- - - - -	20MHz, Basic
AL300	366530	- - - - -	30MHz, Cursor Readout, Frequency Counter
AL540	366554	- - - - -	50MHz, Cursor Readout, Frequency Counter
Power Voltage		-1	100V**
		-3	115V*
		-4	120V**
		-7	230V
Power Cable		-B	No.11 (S/100V) (Taiwan & Japan)
		-D	No.12 (UA/120V) (U.S.A., Canada)
		-F	No.14 (EU/230V) (Europe, Germany)
		-R	No.17 (SAA/230V) (Australia)
		-J	No.18 (E/230V) (England, Singapore)

Note : * Valid only for AL210E
 ** Valid only for AL300 & AL540

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