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Aideepen Handheld oscilloscopes

Specifications:

Max real-time sample rate	1 MSa/s	**Power supply**	9 Vdc (8–10 V)
Timebase range	10 µs/Div–500 s/Div	**Input impedance**	1 MΩ//20 pF
Analogue bandwidth	0–200 kHz	**Current consumption**	~120 mA @ 9 V
Trigger modes	Auto, Normal, and Single	**Resolution**	12 bits
Sensitivity range	5 mV/div–20 V/div	**Dimension**	105 × 75 × 22 mm
Trigger position	Centre of buffer	**Record length**	1024 points
Max input voltage	50 Vpk (with 1× probe)	**Weight**	100 g (without probe and PS)

Button	Press	Hold down
V/DIV	Switch to horizontal baseline, vertical component setting	Long press in the setting except for the vertical component, Enter manual calibration mode.
SEC	Switch time base,PWM output setting	Save the setting parameters.
TRIGGER	Switch:Trigger mode, trigger position setting	
OK	Stop/Run	Show/close detailed parameters
ADJ	Switch fast/slow movement-Switch settings in PWM mode	Show/close detailed parameters

Basic Button Functions:

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Attention:

1. Power supply voltage must not exceed 10 V, otherwise it might damage the ICs inside.
2. Allowed maximum signal input voltage is ±50 Vpk with any probe (including the supplied clip probe).

Power Supply: Connect a regulated 9 Vdc power supply to the 5.5 × 2.1 mm jack at the bottom (centre positive).
Battery operation is also possible – and recommended when measuring 'floating' and Check that the9V battery buckle is installed correctly.

Probe: Connect the probe to the BNC connector at the top. The red clip is the active signal;
black is 'ground' (GND). When the DSO is supplied from a double-insulated plugpack, do not connect the GND clip to any voltage more than, say, 50 V above mains 'ground' potential, as this might exceed the insulation rating of the plug-pack.

Operations

Trigger Modes

AUTO	Triggers are generated internally to provide continuous display updates regardless of signal changes.
NORM	The display will update each time the specified trigger condition (polarity and level) is met.
SING	A single capture/display will occur when the specified trigger condition (polarity and level) is met. Press the [OK] button to arm another single capture.

About Trigger States:

Our oscilloscope has 3 trigger mode,With the Auto / Normal / Single Trigger mode, you can easily capture the current waveform.
When the timebase is set to 50 ms/div or slower, and trigger mode is set to AUTO, the scope will automatically switch to Rolling Mode, whereby the waveform rolls from right to left continuously. Triggering is disabled in this mode.

Calibration Instructions:

1. Pull out the voltage probe
2. Enter the calibration mode (long press the V/DIV key to enter)
3. Adjust the voltage gear 5mV-->20V (order does not matter)
4. Switch the coupling mode and repeat 3 operations until all three coupling modes are calibrated
5. Exit the calibration mode (the calibration parameters will be saved when you exit, and if you shut down without exiting, the calibration will be invalid)

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Firmware upgrade instructions:

1.Need to use the CH340 serial tool to connect to the three pins RX， TX, and GND on the board

2.Press and hold the OK button to turn on ---〉Enter the firmware upgrade mode

3. Open the host computer software， connect to the corresponding port,baud rate: 115200

4.Select firmware file

5.Start the download,wait for the download to complete， and restart the device.

Troubleshooting

Problems	Possible Causes
No display (black)	Check that your power supply's DC plug is **centre-positive**, and the voltage is **between 8 and 10 Vdc**.
Bad V+	(1) Connector 37 defective. (2) Diode D2 open or damaged.
Bad V–	(1) Bad C12 and/or C13. (2) U5 (7660) bad soldering or defective. **Hint:** Check with R27 disconnected to determine if the issue is caused by load or source.
Bad AV–	(1) R27 bad soldering or wrong value. (2) Shorts between AV– and ground.
Bad AV+	(1) R26 bad soldering or wrong value. (2) Shorts between AV+ and ground.
V1 does not close to 0 V	(1) SW1 not set to GND position. (2) Bad soldering on R1 and/or R2. (3) Bad soldering on U1.
V2 does not close to 0 V	(1) SW1 not set to GND position. (2) Bad soldering on R3 and/or R4. (3) Bad soldering on U1.
V3 does not close to 0 V	(1) Bad soldering on U1 and/or U2. (2) Bad soldering on R5 and/or R6.
Bad V4	Bad soldering on R13, R14, or R15.
No Trace	(1) Incorrect V4. If V4 is correct, perform factory default restore as described in (2) (2) Make sure trigger mode is AUTO and timebase is 1ms. Hold down [SEC/DIV] and [TRIGGER] buttons simultaneously for 3 seconds.
Rotating ADJ rotary-encoder does nothing	Check for shorts (or open-circuit/'dry' solder joints) between pins 1 and 3 of the encoder, pins 1 and 2 of the J2 connector, or an open/'dry' solder joint at pin 2 of the encoder.

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Self-check for other reasons of product failure:

1. Has been shock or drop during use;
2. There is no good recovery installation after disassembling the product casing.
3. Product power supply series problems:

a> Use an overvoltage adapter or power supply to power the product. The supply voltage must not exceed 10 V, otherwise the internal IC may be damaged.

b> The 9V battery buckle or power adapter damaged

c>Forcibly cut off the power before shutting down, please turn off the switch on the product and then cut off the power.

Q&A:

Q1:Why need to trigger?

A1:When the oscilloscope is not triggered, the signal (automatic mode) will be randomly grabbed and generate an image. Since the signal is continuous, the waveform randomly is not regular.After trigger, you can get regular waveforms to analyze research.

Q2:How many trigger modes have this oscilloscope?

A2:Our oscilloscope has 3 trigger mode,With the Auto / Normal / Single Trigger mode, you can easily capture the current waveform.

Q3:trigger level not center trigger level

A3: Hold down [TRIGGER] button for about 3 seconds. This will set the trigger level to the medium value of signal amplitude.

Q4:Display white screen.

A4: Power supply voltage must be in the range of 8 - 10V;Confirm signal input within range of equipment parameters;Default Restore.

Q5:Why does the encoder knob rotate trigger level up and down without change?

A5: The encoder knob of the equipment needs to be fine-tuned in design, so it needs to be adjusted slowly to work. When the speed is too fast, the device will be considered invalid.

Q6: Why my voltage numbers are incorrect?

A6: There are two possible causes for wrong voltage display.

1) The reference point has not been calibrated(you just need to perform VPos alignment as instructed in the manual (it is strongly suggested to do factory default restore before VPos alignment to make sure all parameters are valid)

2) the gain of analog channel is incorrect. (you just need to perform VPos alignment as instructed in the manual (it is strongly suggested to do factory default restore before VPos alignment to make sure all parameters are valid).

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We greatly appreciate your POSITIVE feedback. Please do NOT leave negative feedback without asking for help. Your satisfaction is our unremitting pursuit.

Please refer the Troubleshooting section in the manual to find possible reasons in the analog channels.

Any questions can contact us if you need help.

Email:sales@aideepen.com