Subject: AC/DC Electronics
Posted by Manualblock on Fri, 17 Dec 2004 23:08:53 GMT
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In the spirit of education and electronics; is there a simple explanation of exactly how and why there can be a DC component riding on an AC waveform? Thanks, J.R.

Subject: Re: AC/DC Electronics
Posted by Wayne Parham on Sat, 18 Dec 2004 06:17:18 GMT
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Instead of having an AC signal with zero crossing at 0 volts, shift it to whatever the DC level is. That is a description of an AC signal riding on a DC one.If you think about it, there is always a DC component. Whatever the zero crossing average is, that's the DC value. If it is exactly the same as your reference, then you might consider it to have no DC component, or zero volts. But if you reference it to something else, there may be some DC offset.

Subject: Re: AC/DC Electronics
Posted by Manualblock on Sat, 18 Dec 2004 08:44:00 GMT
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How do I know what the DC level is?

Subject: Re: AC/DC Electronics
Posted by Wayne Parham on Sat, 18 Dec 2004 12:42:11 GMT
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With an oscilloscope, set the input for DC coupling. You'll see an offset, and that reflects the DC level. If all you have is a DVM, you could use a 1Kohm resistor in series and a large capacitor after that in shunt to filter out the AC. The DC level is all that will remain, so just measure it with the DC voltage setting on your meter.

Subject: Re: AC/DC Electronics
Posted by Manualblock on Sat, 18 Dec 2004 13:59:20 GMT

Excellent; thanks Wayne.