Subject: What's Input Sensitivity Rating?
Posted by GarMan on Tue, 10 Feb 2004 19:26:35 GMT
View Forum Message <> Reply to Message

What does the Input Sensitivity Rating of an amp refer to?

Subject: Re: What's Input Sensitivity Rating?
Posted by Wayne Parham on Tue, 10 Feb 2004 22:25:30 GMT
View Forum Message <> Reply to Message

Input sensitivity tells you the signal required for input to the amp. An example is the common 47Kohm, 0.775v input of many modern preamps. The input impedance is 47K ohms and the signal presented should swing between 0 and 0.775v; At 0.775v input, the amplifier is brought to full output.

Subject: Re: What's Input Sensitivity Rating?
Posted by GarMan on Wed, 11 Feb 2004 19:47:08 GMT
View Forum Message <> Reply to Message

Thanks Wayne. That's what I thought. Just wanted to verify before I go into my next question.Why on earth are preamps and amps designed with so much gain, that input signals need to be reduced by up to a factor of 1,000, just so the power amp will not over load. My understanding is that most active pre-amps are built with a gain of 20 dB while most power amps have gains between 30 to 40 dB. This means that a 2V signal from a CD player is attenuated by 40 to 60 dB at the volume control, just so it can go through the two gain stages for normal listening levels. It seems very ineffecient to me. Shouldn't designers aim for a system that uses as much of the original signal as possible? To design an amp where gain and power are better matched?Technically, the 2V output from a CD player is enough to power speakers to "normal" listening levels, provided impedence is matched properly and current is available. So, high gain in amps is not necessary with modern source components. If source signal is used whole, all you need is just over 20dB of gain to clip a 100W amp.What are you thoughts on the follow system to make the most use out of the source signal:- Preamp based on a unity gain buffer. No gain, but buffered for impedence matching- Low gain amp such that input sensitivity is line level.Gar.

Subject: Re: What's Input Sensitivity Rating?
Posted by Wayne Parham on Thu, 12 Feb 2004 04:37:27 GMT
View Forum Message <> Reply to Message

I agree with you on the sensitivity issue. One of the things I was most impressed with on late-1970's and early-1980's Yamaha integrated amps was that the engineer had designed the system so that it would just enter clipping when the volume knob was at maximum. Essntially, you couldn't make the system clip. It only took a little bit of time on the drawing board and a couple of 1/10th cent resistors in production to do this, yet most others let 'em run wide open when the volume was at max. That usually means the system enters clipping at about 50% to 70% on the volume knob.It's easy enough to fix. Make a two-resistor voltage divider that sets maximum gain to the level where the outputs clip. That's all there is to it.
