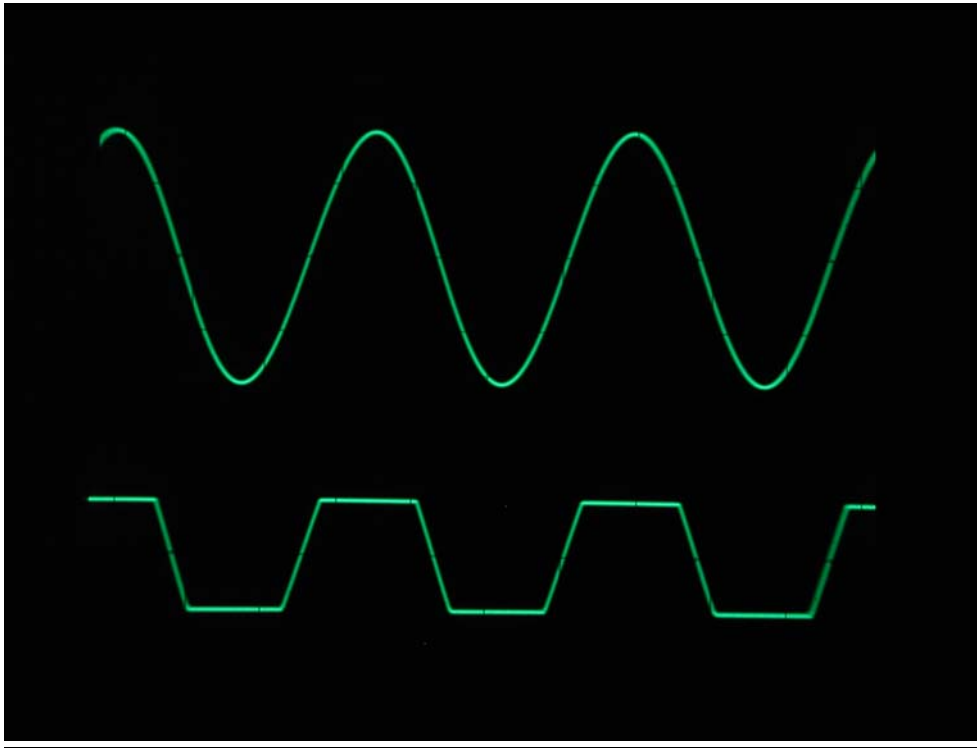


# WHY WE DON'T USE “WALL WARTS”, PART 1:

## MAXIMUM OUTPUT LEVEL & HEADROOM



### HENRY MATCHBOX

Max. Level: +26 dBu  
Headroom: 22 dB  
No clipping!

### 12-VOLT UNIT

Max. Level: +17 dBu  
Headroom: 13 dB  
Gross clipping distortion!

Actual scope photos. 1 kHz input signal, +14 dB gain, outputs term. with 600 ohms.

The Henry Matchbox is the world's most popular level interface because of its *performance!* For example, our **MAXIMUM OUTPUT LEVEL of +26 dBu** prevents clipping distortion.

The maximum output level is a function of power supply voltage. Many interface units use a 12-volt unregulated “wall wart”. The Henry Matchbox uses an internal **40-volt** supply which is *regulated*. This is why the Matchbox can produce *more than double* the output level of the 12-volt powered unit, resulting in *more than double* the headroom.

### **DOES IT MATTER? YES! Lack of headroom = clipping distortion!**

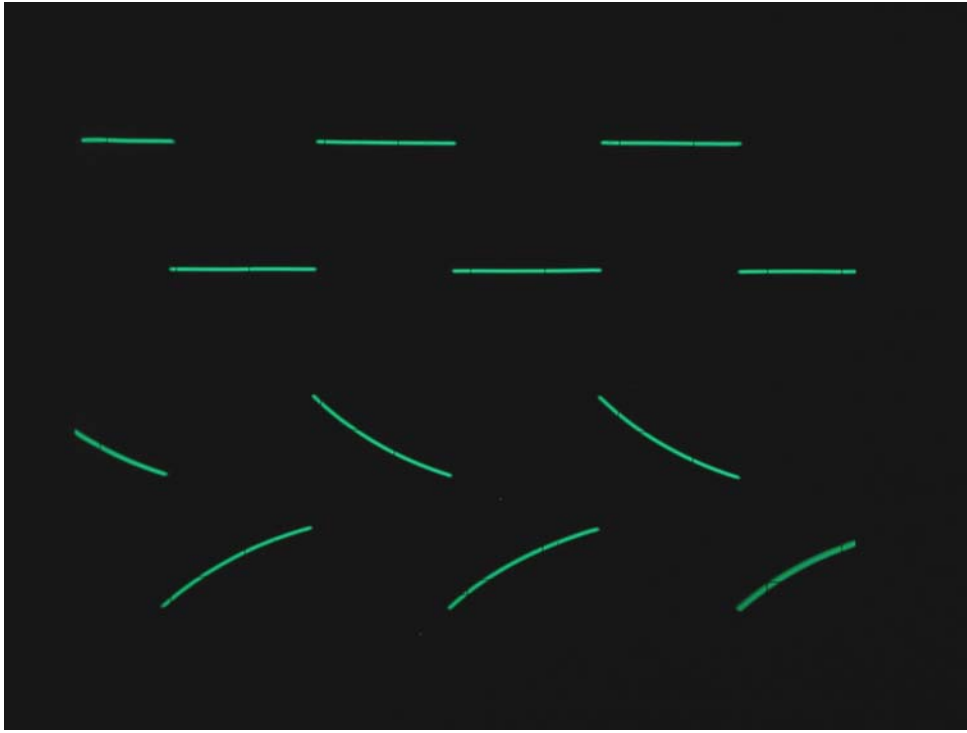
In a typical +4 dBu pro audio system, the 12-volt unit will have only 13db of headroom, *not nearly enough for digital audio sources or live sound*. In a +8 dBu system, it's even worse: only 9db of headroom, *not even enough for analog sources like vinyl records*.

The Henry Matchbox provides **22db of headroom**, which is *necessary to prevent clipping of digital audio sources or live sound audio* .

The above applies to *ALL* Henry Engineering audio products: Matchbox, TwinMatch, USDA, MicroMixer, StereoMixer, AutoSwitch, USB Matchbox, USB Match Plus, etc.

# WHY WE DON'T USE “WALL WARTS”, PART 2:

## SQUAREWAVE & LOW FREQUENCY RESPONSE



### HENRY MATCHBOX

70 Hz Squarewave:  
Perfect waveshape  
Response below 1Hz  
Solid bass response!

### 12-VOLT UNIT

70 Hz Squarewave:  
Severe distortion, tilt  
Reduced bass!  
-3 dB @ 35 Hz  
-6 dB @ 22 Hz

Actual scope photos. 70 Hz input signal, +14 dB gain, outputs term. with 600 ohms.

Why does the Henry Matchbox sound better than other units? Because of its exceptional *rock-solid low frequency (bass) performance!*

**SQUAREWAVE RESPONSE** indicates low frequency performance. Products that use a “wall wart” single-polarity power supply usually have capacitors in the audio path, resulting in compromised low frequency performance. The Henry Matchbox, with its internal bi-polar power supply, *uses no capacitors in the audio path*, and has perfect response to below 1Hz.

**DOES IT MATTER? YES! Poor bass = poor sound!**

Insufficient bass response makes the audio sound “thin”, with lack of “punch” and definition. The Matchbox response to below 1 Hz guarantees solid bass performance!

The data above was taken from laboratory tests performed on a Henry Matchbox, and another level interface product with the 12-volt power supply supplied by the manufacturer of the unit. Frequency response measurements performed with a Hewlett-Packard model 339A Distortion Measurement Set. Photos were taken from oscilloscope CRT.