



## What's an E-Ballast Friendly Lamp?

The amount of simulated Sun your plants are receiving indoors is a combination of your lamp, your ballast and your fixture. Each of these components must be chosen carefully, or you may end up with distortions of light that you pay money for, but get no benefit from. There are key terms for consumers to be wary of when purchasing a proper lamp for an electronic ballast, one of these terms is **"E-Ballast Friendly"**.

## What is an E-Ballast friendly lamp?

A new crop of self-proclaimed digital lamp companies have appeared in the market recently and claim to have lamps that are **"e-ballast friendly"**. **What does that mean exactly?** This is where marketing fiction needs to be eliminated for the sake of the end user that just needs a properly functioning lamp and ballast.

- **Does E-ballast friendly just mean the lamp gets along with the ballast? They're on good terms?**
- **Is there some new definition of friendly that includes electronic ballasts and lamps?**
- **Is a speaker "friendly" with all amplifiers?**

**"E-ballast friendly"** doesn't say that the lamp is a matched set or specifically certified to operate with specific HID electronic ballasts. Also, if lamp technology is new, it's untested. If it's **untested**, then why risk your money on it.

## What's unfriendly about the E-ballasts?

SunPulse has found that out that a major problem with HID digital electronically ballasted systems is the amplified harmonic distortion created by the E-ballast. Amplified magnetic and acoustic resonances are constantly changing due to sine-wave fluctuations of the ballasts dimming circuits. Basically, the dimming functions and different power supplies in the ballasts are the source of a number of lamp/ballast compatibility problems. E-ballast manufacturers must control the E-ballasts harmonic distortions, digital lamps are only one part of the solution.

## Gas chemistry

In a true digital lamp, or E-lamp, the gas chemistry is custom. If you see an **"E-ballast friendly"** lamp and the spectral chart of the lamp looks the same as the previous **"non-digital"** version, then nothing really changed and it's not a true digital lamp. The gas chemistry must be very different to be effective for living things, be able to operate at high frequency and not contain any significant peaks of light.

Peaks of light in lamps are for the human eye, not for plants and living things. Those big spikes you see in other lamp companies spectral charts aren't like nature at all, yet these lamp companies continue to claim that peaks of light are good. The Sun doesn't have big peaks of light, it has a smooth waveform. All living things evolved with the Sun, no more and no less than that.

## Sunpulse Lamps

Sunpulse Lamps were created by the GAS Technologies group. GAS is composed of the world's leading plant & life scientists, photo-biologists, gas chemists and lamp designers. GAS Laboratories, USA, has the most advanced, real-world testing facilities and certification labs for HID electronic ballasts and lamps. GAS is also the inventor of **"True Sun"** simulators used by testing labs to show how a given product would react in long term exposure to the Sun. The simulators meet military specifications on what true sunlight is for highly accelerated life tests, or HALT tests.

**Coming in 2012: The next advancement in Digital Lamp Technology brought to you by SunPulse Lamps**