

## As in-cab tech gizmos grow, inverters, too, must grow, improve with them

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The days of an 18-wheeler being merely a truck traveling down the highway are gone.

It is a home office, a living space, a bedroom.

However, bringing along the luxuries of home — a television, laptop, mini fridge, microwave — can be a challenge when it comes to powering them.

Instead of banking on just the battery or the truck's electrical system to handle delivering power to several different devices, inverters are used to help supply the charge.

But as with any technology, the choices of brand, size and power level vary. Xantrex, founded in 1983 as a power supply company, acquired the top three inverter companies Heart, Statepower and Trace Engineering 15 years ago and has since been working on ways to continually improve the way inverters work, said senior marketing manager Mitul Chandrani.

Typically, trucks and fleets choose inverters with 1,500 watts to 2,000 watts, though the company offers a power range of 400 to 6,000 watts. Trucks can purchase standalone invert-

ers, inverters with a built-in charger and battery monitoring equipment, Chandrani said.

"Just like any technology, the inverters have become more advanced. The form factor has become more compact and lightweight. Newer features — for example the Xantrex Freedom HFS — can charge a dead battery drained to 0 volts. It is the only truck inverter that performs to rated output in subzero climate conditions," Chandrani said. "In this age of sophisticated electronic gadgets, the need for quality power to operate these gadgets is higher than ever. Today's trucker has a microwave, small fridge, coffee maker, CPAP machine, electric blanket and other electronics. Some applications are more power sensitive than others so having a quality power inverter is critical to drivers' comfort and convenience on the road. This has direct impact on their productivity and performance."

But choosing the best inverter means understanding not only the product, but what it will be used for specifically.

### What to consider

Chandrani said the most obvious thing to first consider when buying an inverter is knowing the amount of AC power needed.



Courtesy: XANTREX

There are several popular inverters sold by Xantrex for the trucking industry, including the Freedom XM, shown here. Mitul Chandrani, senior marketing manager, Xantrex Brand at Schneider Electric, said there are several factors that need to be considered when selecting the right inverter including whether a high or low frequency inverter is best.

"Choosing the right inverter size depends on the power requirements of the electronics you expect to operate at any given time. Select based on the total of highest wattage of each electronic device you may operate at the same time," he said. "If you are going to operate two devices at once, add up the total wattage of both devices then add at least 50 percent or more to account for startup spikes in the power draw."

Chandrani said an example can be used as a guideline:

- A + B = Total Wattage [+50 percent] = C (A Microwave 1000W, B Portable Lights 200W, C Recommended size of inverter)
- 1000 W [A] + 200 W [B] + [1200W x 0.50] = 1800 W [C]

Truckers should also look for the UL458 rating, meaning it has been tested by a third party lab and meets safety and quality standards, he said.

Inverter power is supplied in both sine

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