

What's NEW

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Jetstream JTPS30M DC Power Supply

Reviewed by Bob Grove W8JHD

The subject of power supplies is an art in itself. Every day we are besieged by “wall warts,” battery chargers, heavy duty power supplies, and AC adapters. Even batteries come in an array of sizes, shapes, voltages and current ratings.

AC power supplies can be regulated or unregulated, fixed voltage or adjustable, conventional transformer or switching, and come in a wide range of voltages and current capacities.

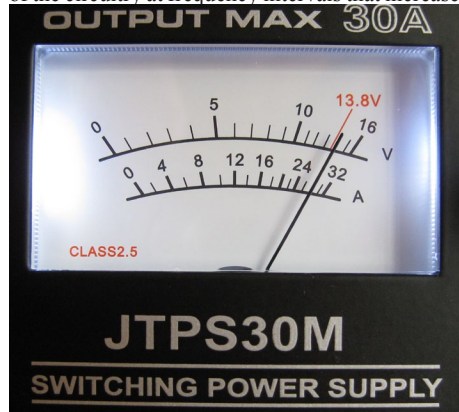
This new release from Jetstream© is of the heavy-duty, adjustable voltage, regulated, switching variety. It is encased in a sturdy metal cabinet with a finned top to assist heat dissipation. Heat is always a side effect of high current in a small package. A warning label is affixed to the top heat sink to alert users to this probability under certain high-load conditions.



A little theory

Most of the power supplies we see, especially traditional linear types, consist of a transformer, rectifier diodes, and filter capacitors. They may have regulating devices that keep the voltage steady under varying current-loading conditions, and they may have components to allow voltage adjustment.

Switching power supplies are a newer technology, using lighter-weight transformers which still allow heavy current delivery. They do this by allowing the transformer to be switched in and out of the circuitry at frequency intervals that increase



The panel meter displays accurate voltage and current levels

their efficiency.

Such designs cut costs while still delivering the goods. But there is one problem with switching power supplies: Unless well filtered and shielded, their switching circuitry can radiate considerable radio frequency interference (RFI) to surrounding receiving equipment.

I've often traced severe RFI in my own radio room to switching power supplies around the house. I've seen it in power-tool battery chargers, electric blanket regulators, electric shaver drop-in chargers, radio power supplies, and even electric washer and drier controls.

Let's try this one out

So, if switching power supplies can be such a dreadful nuisance, why are we even reviewing one in *MT*? I'll have to admit considerable skepticism at first. The price was very reasonable considering its many features. I just assumed it would be electrically noisy.

The first thing I did when I took it out of the box was to set it next to the short whip antenna on my spectrum analyzer, expecting to see quite a spectacle when I turned it on! But the spectrum analyzer didn't even flinch. I put the spectrum analyzer's antenna right on the power supply; still nothing. I wrapped the AC cord around the antenna and put a 10 amp load on the supply to make it work, assuming that would generate some RFI. Not a peep! This is one, quiet, switching power supply.

Features

The new Jetstream JTPS30M is handsome, compact, lightweight, and powerful. Two of these 30A power supplies would fit inside the cabinet of my 20A Astron linear power supply and still have room.

The Jetstream can be voltage adjusted from 9-15 VDC and produce a current up to 30 amps with very low ripple. Attractive blue-white lighting illuminates the panel meter when the supply is turned on; a rocker switch lets you choose whether to read the voltage or the current.

Since most DC-powered electronic equipment and accessories are designed to accept the nominal 13.8 VDC of an automotive electrical system, the Jetstream has both a red 13.8 V mark on the adjustable meter scale as well as a rear-panel rocker switch that automatically sets the supply to 13.8 VDC, disabling the variable control.

A cigarette-lighter style socket on the front panel invites the operation of mobile radio equipment commonly equipped with that type of cord; a maximum of 10A current is specified for this connector. A pair of push terminals allows the at-



The rear panel sports the 30A terminals, cooling fan, and 13.8V switch

tachment of random wires for a load not to exceed 3A.

For full 30A current drain, a husky set of screw terminals on the back is provided. Under high load conditions, a cooling fan automatically kicks in for temperature regulation. Remember, 30 amps at 13.8 volts is over 400 watts – way more power capability than required by any ham transceiver I know of!

Just in case it does encounter an overload situation, the power supply is fused. The fuse is located inside a small panel under the AC input connector. A spare fuse is also inside that panel.

Some final thoughts

I certainly have no reservation about recommending this fine power supply for any imaginable 9-15 volt use. The only criticism I could offer would be to ask why, since this is a voltage-adjustable supply, wasn't it designed to allow complete adjustment from 0 to 15 Volts? This would allow it to be used for virtually any accessory or piece of equipment, rather than just those designed for 9-15 volt (typically mobile) applications.

That puzzlement aside, as I conclude this review, I have already attached this power supply to my ham transceiver; it's a great improvement over the much larger, much heavier, and much uglier box that used to power it!

The Jetstream JTPS30M is \$109.95 from Grove Enterprises (800-438-8155 or www.grove-ent.com) and other *MT* advertisers.

SPECIFICATIONS

Input voltage: 115 VAC +/-10% @60 Hz
Output voltage: 9-15 VDC variable, 13.8 VDC fixed
Output voltage tolerance: <2%
Output current: 25A continuous, 30A maximum (short-term)
Output ripple/noise: <80mV P-P
Protection: Short-circuit and overload
Fuse: F8A 120V
Dimensions: 7-1/2"W x 2-3/4"H x 8-1/2"D
Weight: 5 lbs.



Power is available on the front panel cigarette lighter jack and push terminals

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