

# Sharman multiCOM SM-30II switch mode power supply

**T**here was a brief primer on power supplies in the June *RadCom*, (page 36) that will give you the basics on the different types of power supply available.

The Sharman multiCOM SM-30II is a 30 amp switch mode power supply offered by Moonraker. As a recap, switch mode power supplies work by converting AC into DC first, and then transforming this into the desired voltage that will run much of our radio equipment.

## Choices

When buying a power supply for the shack, you have two main choices to make: switch mode or linear. Linear power supplies produce no noise on our bands but are typically much bigger and heavier than the smaller switch mode power supplies. Switch mode power supplies (SMPS) sometimes get a bad reputation for generating noise. Sometimes this is justified and sometimes not. A well-designed one for amateur radio use should come with good EMI filtering, RF shielding and the function to move the noise to another frequency.

So, while a SMPS produces more noise than a linear supply; it has some considerable benefits too, enabling the average amateur to compromise. They are a lot more efficient, generating less heat, requiring less of a heatsink and therefore resulting in smaller and much lighter form factor than a linear supply.

## Out of the box

The Sharman multiCOM SM-30 switch mode power supply can provide a variable voltage from 9V up to 15V DC, delivering 20 amps continuously and up to 30 amps at peak. The unit is supplied with a simple user manual that covers everything you need to know about the power supply; most amateurs probably won't need it anyway.

The unit comes with attractive analogue meters to monitor both the amps and volts; these are both brightly illuminated and are



The front of the Sharman multiCOM SM-30II switch-mode power supply unit.

easy to read. After using power supplies with mostly digital meters, I found the analogue meters a refreshing change.

The power supply includes a noise offset control to eliminate the pulse noise of the switching circuit. This is a patent-pending function and is specially designed for communication equipment use. Additionally, it has built in protection for short circuits and automatic current limiting (over 30A).

The Sharman power supply comes with the typical range of connectors. On the back of the unit, you will find two binding posts, supplying up to 30A for your transceiver. These will allow you to use fork and ring terminals and banana plugs. On the front of the unit, you will find two pairs of snap-in terminals supplying a maximum of 3A each. These would be handy for quickly connecting shack accessories like an ATU, power meter etc. Confusingly, the two positive/negative terminals are not consistent, with the two negative terminals appearing next to each other. As always, look and check twice before connecting any equipment to ensure the correct polarity!

On the front panel you will also find a cigar outlet supplying up to 10A. This

could be useful for powering a receiver or a handheld with a cigarette power adaptor. It is also a straightforward way to add USB charging capability by plugging in a car USB adaptor.

## In use

Setting the required voltage using the front knob is easy, once you remember there is a switch on the back of the unit, which either keeps the voltage locked at 13.8V or allows it to be variable from 9V up to 15V! Leaving the switch set to 13.8V effectively disables the voltage adjustment knob on the front, which is a neat safety feature if you only plan to power equipment requiring 13.8V (ie most commercial transceivers).

Flicking this switch to the ADJUST position enables the front knob and allows you to select your desired voltage. Two things to note here, if I were being picky on the voltage adjustment knob; it does not have a notch to let you easily know when

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The power supply features two attractive backlit analogue displays.



The back of the Sharman multiCOM SM-30II switch-mode power supply unit.

it is set to 13.8V and, it is labelled as “VOL ADJUST”. This label could be misconstrued as a volume adjustment, possibly!

Drawing 20 amps on transmit resulted in little discernible noise from the power supply, despite the seemingly oversized fan in the unit. You could hear the fan spinning during use, but it was noticeably quiet and certainly quieter than the fan on another PSU I have on transmit. I did not notice any switching noise on HF while using the power supply, but should you notice any on a frequency of interest, you can use the NOISE OFFSET knob on the front unit to shift it to another frequency.

### Conclusion

The model on review here currently has a special offer price of £69.95 (regular price is £79.99) from Moonraker. The price is good for a power supply unit like this. The power supply is lightweight, but quite big for a 30A power supply, this would not be a problem if you just intend to use it in the shack but might be a little large for travel use. Moonraker also offer the SM-50II model, which is the same as the SM-30II, except it supplies up to 50 amps.

Thanks to Moonraker for supplying the review model ([www.moonraker.eu](http://www.moonraker.eu)).

### Websearch

<https://moonrakeronline.com/sharman-sm-30ii-30-amp-switch-mode-dc-power-supply>

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