

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

---

**FORM 8-K**

---

**CURRENT REPORT**

**Pursuant to Section 13 or 15(d) of the  
Securities Exchange Act of 1934**

**Date of Report (date of earliest event reported):  
September 14, 2010**

---

**MONOLITHIC POWER SYSTEMS, INC.**

(Exact name of Registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**000-51026**  
(Commission  
File Number)

**77-0466789**  
(I.R.S. Employer  
Identification Number)

**6409 Guadalupe Mines Road, San Jose, CA 95120**  
(Address of principal executive offices) (Zip Code)

**(408) 826-0600**  
(Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

---

**Item 8.01 Other Events.**

On September 14, 2010, Monolithic Power Systems, Inc. announced updated revenue guidance for the third fiscal quarter ending September 30, 2010. A copy of the press release is attached hereto as Exhibit 99.1 and incorporated herein by reference.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits.

| <u>Exhibit</u> | <u>Description</u>  |
|----------------|---|
| 99.1           | Press Release, dated September 14, 2010, announcing updated revenue guidance for the third fiscal quarter ending September 30, 2010 |

---

**Index to Exhibits**

**Exhibit**

**Description**

99.1 Press Release, dated September 14, 2010, announcing updated revenue guidance for the third fiscal quarter ending September 30, 2010

---

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: September 15, 2010

By: \_\_\_\_\_ /s/ C. RICHARD NEELY, JR.  
C. Richard Neely, Jr.  
Chief Financial Officer  
(Principal Financial and Accounting Officer and  
Duly Authorized Officer)



**Monolithic Power Systems, Inc.**  
6409 Guadalupe Mines Road  
San Jose, CA 95120 USA  
T: 408-826-0600, F: 408-826-0601  
[www.monolithicpower.com](http://www.monolithicpower.com)

---

**Monolithic Power Systems Updates Revenue Guidance  
for the Third Fiscal Quarter ending September 30, 2010**

**SAN JOSE, Calif. September 14, 2010**—Monolithic Power Systems (MPS) (Nasdaq: MPWR), a leading fabless manufacturer of high-performance analog and mixed-signal semiconductors, today announced updated revenue guidance for the third fiscal quarter ending September 30, 2010.

Based on the current production and demand outlook, the company expects its third quarter revenues to be at the lower end of its previously announced guidance of \$66.0 to \$70.0 million. The company is providing this update to investors due to the uncertainty in the current semiconductor markets.

**Safe Harbor Statement**

This press release contains forward-looking statements, as that term is defined in the Private Securities Litigation Reform Act of 1995, regarding, among other things, targeted revenues, production rates, and demand outlook and market conditions for the quarter ending September 30, 2010. These forward-looking statements are not historical facts or guarantees of future performance or events, are based on current expectations, estimates, beliefs, assumptions, goals, and objectives, and involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from the results expressed by these statements. Readers of this press release are cautioned not to place undue reliance on any forward-looking statements, which speak only as of the date hereof. Factors that could cause actual results to differ include, but are not limited to, adverse changes in production and testing efficiency; adverse changes in government regulations in foreign countries where MPS has offices; acceptance of, or demand for, MPS' products, in particular the new products launched within the past 18 months, being lower than expected; competition generally and the increasingly competitive nature of our industry; the effect of catastrophic events; adequate supply of our products from our third-party manufacturer; and other important risk factors identified in MPS' SEC filings, including, but not limited to, its Form 10-Q filed on July 28, 2010.

The forward-looking statements in this press release represent MPS' targets and current expectations, as of the date hereof, not predictions of actual performance. MPS assumes no obligation to update the information in this press release.

---

**About Monolithic Power Systems, Inc.**

Monolithic Power Systems, Inc. (MPS) develops and markets proprietary, advanced analog and mixed-signal semiconductors. The company combines advanced process technology with its highly experienced analog designers to produce high-performance power management integrated circuits (ICs) for DC to DC converters, LED drivers, Cold Cathode Fluorescent Lamp (CCFL) backlight controllers, Class D audio amplifiers, and Linear ICs. MPS products are used extensively in computing and network communications products, LCD monitors and TVs, and a wide variety of consumer and portable electronics products. MPS partners with world-class manufacturing organizations to deliver top quality, ultra-compact, high-performance solutions through the most productive, cost-efficient channels. Founded in 1997 and headquartered in San Jose, California, the company has expanded its global presence with sales offices in Taiwan, China, Korea, Japan, and Europe, which operate under MPS International, Ltd.

###

Monolithic Power Systems, MPS, and the MPS logo are registered trademarks of Monolithic Power Systems, Inc. in the U.S. and trademarked in certain other countries.

**Contact:**

Rick Neely

Chief Financial Officer

Monolithic Power Systems, Inc.

408-826-0777

[investors@monolithicpower.com](mailto:investors@monolithicpower.com)