

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

|  |         |          |   |  |  |  |  |  |
|--|---------|----------|---|--|--|--|--|--|
| 1. Name and Address of Reporting Person*<br><u>Ueuten Paul</u> |         |          | 2. Issuer Name and Ticker or Trading Symbol<br><u>MONOLITHIC POWER SYSTEMS INC</u><br>[ <u>MPWR</u> ] |  |  | 5. Relationship of Reporting Person(s) to Issuer<br>(Check all applicable)<br>Director 10% Owner<br><input checked="" type="checkbox"/> Officer (give title below) Other (specify below)<br><u>Sr. V.P. Design Engineering</u> |  |  |
| (Last)   | (First) | (Middle) | 3. Date of Earliest Transaction (Month/Day/Year)<br><u>10/14/2009</u>                                 |  |  | 6. Individual or Joint/Group Filing (Check Applicable Line)<br><input checked="" type="checkbox"/> Form filed by One Reporting Person<br>Form filed by More than One Reporting Person  |  |  |
| 6409 GUADALUPE MINES ROAD                                      |         |          | 4. If Amendment, Date of Original Filed (Month/Day/Year)  |  |  |  |  |  |
| (Street)<br><u>SAN JOSE CA 95120</u>                           |         |          |   |  |  |  |  |  |
| (City) (State) (Zip)   |         |          |   |  |  |  |  |  |

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) |   | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5) |            |                          | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|------------|--------------------------|---|--|---|
|                                 |                                      |  | Code                           | V | Amount  | (A) or (D) | Price                    |   |  |   |
| Common Stock                    | 10/14/2009                           |  | M <sup>(1)</sup>               |   | 30,000  | A          | \$9.32                   | 88,095  | D  |   |
| Common Stock                    | 10/14/2009                           |  | S <sup>(1)</sup>               |   | 30,000  | D          | \$22.0721 <sup>(2)</sup> | 58,095  | D  |   |
| Common Stock                    |                                      |  |                                |   |   |            |                          | 153,556   | I  | Ueuten Trust I  |
| Common Stock                    |                                      |  |                                |   |   |            |                          | 123,900   | I  | Ueuten Trust II                                       |
| Common Stock                    |                                      |  |                                |   |   |            |                          | 30,550  | I  | Ueuten Trust III                                      |
| Common Stock                    |                                      |  |                                |   |   |            |                          | 30,550  | I  | Ueuten Trust IV                                       |

**Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) |   | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) |                 | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |       |
|--|--|--------------------------------------|--|--------------------------------|---|--|--|-----------------|---|--|--|---|--|-------|
|  |  |                                      |  | Code                           | V |  | Date Exercisable   | Expiration Date |   |  |  |   |  | Title |
| Non-Qualified Stock Option (right to buy)  | \$9.32   | 10/14/2009                           |  | M <sup>(1)</sup>               |   | 30,000   | 06/15/2006   | 06/15/2015      | Common Stock  | 30,000                                     | \$0  | 30,762  | D  |       |

**Explanation of Responses:**

- In accordance with the reporting person's 10b5-1 trading plan.
- The price is the weighted average sale price for the transactions reported on this line. The prices for the transactions reported on this line range from \$20.87 to \$21.28. The reporting person undertakes to provide, upon request by the staff of the Securities and Exchange Commission, the issuer, or a security holder of the issuer, full information regarding the number of shares sold at each separate price.

By: Adriana Chiocchi For: Paul Ueuten 10/14/2009

\*\* Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

\* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

**Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.**