

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* <u>Xiao Deming</u>			2. Issuer Name and Ticker or Trading Symbol <u>MONOLITHIC POWER SYSTEMS INC</u> [<u>MPWR</u>]			5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>Pres. of MPS Asia Operations</u>		
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year) <u>05/02/2013</u>			6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person		
<u>79 GREAT OAKS BLVD</u>			4. If Amendment, Date of Original Filed (Month/Day/Year)					
(Street) <u>SAN JOSE CA 95119</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	05/02/2013		S ⁽¹⁾		1,940	D	\$23.171	117,265	D	
Common Stock	05/02/2013		A		173 ⁽²⁾	A	\$0.0	117,438	D	
Common Stock	05/02/2013		S ⁽¹⁾		92	D	\$23.17	117,346	D	
Common Stock	05/03/2013		S ⁽¹⁾		264	D	\$24.18	117,082	D	
Common Stock	05/03/2013		A		23 ⁽²⁾	A	\$0.0	117,105	D	
Common Stock	05/03/2013		S ⁽¹⁾		13	D	\$24.18	117,092	D	
Common Stock	05/03/2013		M		70,000	A	\$11.31	187,092	D	
Common Stock	05/03/2013		S		70,000	D	\$24.2107	117,092	D	
Common Stock								12,587	I	by Spouse

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	(A)	(D)	Date Exercisable	Expiration Date						Title
Non-Qualified Stock Option (right to buy)	\$11.85 ⁽³⁾	05/03/2013		M			70,000	10/26/2008	10/26/2013	Common Stock	70,000	\$0.0	0	D	

Explanation of Responses:

- Shares sold to pay tax obligations resulting from the vesting of restricted stock units.
- Equitable stock dividend adjustment approved by the Board of Director as a result of dividend Payment to shareholders on December 28, 2012. Stock dividends will release according to the same vesting schedule as the original grants.
- On December 11, 2012, the Company's Board declared a special cash dividend of \$1.00 per common share, which was paid on December 28, 2012 to all shareholders of record as of the close of business on December 21, 2012. The Board approved a modification whereby each outstanding option as of December 28, 2012 was increased by a ratio of 1.0471 with a corresponding reduction in the exercise price.

By: Saria Tseng For: Deming 05/06/2013
Xiao

** 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.