

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*			2. Issuer Name and Ticker or Trading Symbol			5. Relationship of Reporting Person(s) to Issuer (Check all applicable)		
<u>Xiao Deming</u>			<u>MONOLITHIC POWER SYSTEMS INC</u>			Director 10% Owner		
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year)			X Officer (give title below) Other (specify below)		
<u>79 GREAT OAKS BLVD</u>			<u>07/05/2012</u>			<u>Pres. of MPS Asia Operations</u>		
(Street)			4. If Amendment, Date of Original Filed (Month/Day/Year)			6. Individual or Joint/Group Filing (Check Applicable Line)		
<u>SAN JOSE</u>	<u>CA</u>	<u>95119</u>				X Form filed by One Reporting Person		
(City)	(State)	(Zip)				Form filed by More than One Reporting Person		

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			
<u>Common Stock</u>	<u>07/05/2012</u>		<u>S</u>		<u>8,600</u>	<u>D</u>	<u>\$20.9</u>	<u>10,000</u>	<u>I</u>	<u>by Spouse⁽¹⁾</u>
<u>Common Stock</u>								<u>130,869</u>	<u>D</u>	

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)		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
<u>Non-Qualified Stock Option (right to buy)</u>	<u>\$8.05</u>	<u>07/05/2012</u>		<u>S</u>		<u>03/28/2005</u>	<u>04/26/2015</u>	<u>Common Stock</u>	<u>11,563</u>	<u>\$20.9</u>	<u>12,108</u>	<u>I</u>	<u>by Spouse⁽²⁾</u>

Explanation of Responses:

- 1. Represent shares owned by the reporting person's spouse.
- 2. Represents options owned by the reporting person's spouse.

By: Saira Tseng For: Deming 07/09/2012
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.