Centre for Applied Research in Electronics
Indian Institute of Technology Delhi

28th Feb., 2012

The Centre for Applied Research in Electronics is planning to procure a Single Sided Mask Aligner/Photolithography System. Quotations for suitable systems matching the desired specifications and following IIT Delhi norms are hereby invited for the purchase.

Complete requirements for a suitable **Single Sided Mask Aligner/Photolithography System** are listed below:

ESSENTIAL SPECIFICATIONS:

1. ***Substrate size:*** From 1 inch (25 mm) to 4 inch (100mm)

2. ***Exposure modes with the following minimum feature size specs:***
   a. Vacuum contact: 1 μm or better
   b. Soft contact: 2.0 μm or better
   c. Proximity: 5.0 μm or better
   d. Hard Contact: less than 1 μm

3. ***Alignment gap:*** 10 to 50 μm in steps of 1μm or better
4. ***Mask plate thickness:*** As per standard plates
5. ***Alignment accuracy:*** 1 μm or better
6. ***Software*** for operation, recipes, remote diagnostics.
7. ***Video microscope system*** with eye pieces and CCD camera of resolution 500×480 pixels or better, for alignment.
8. ***High resolution flat panel monitor*** (min. 17 inch monitor with electronic brightness, contrast and magnification, brightness ratio adjustment).
9. ***Exposure unit*** (Universal Lamp housing upto 1000 W lamps):

a. Exposure lamp: Hg 350 W (2 nos.) Optional: Hg 1000 W lamps with connection etc.
b. Sockets, cables and connectors, optics housing, mirrors, lenses and filters for 50 nm to 400 nm wavelength range.
c. Operation in constant light Intensity/Power mode with display of intensity and power.
d. UV sensors for at least two wavelengths of 365 nm and 405 nm. UV power/light intensity meter, one for 365 nm and the other for 405 nm.
e. Parallel light: ±5 % uniformity or better for a 100 mm wafer.

10. ***Alignment Stage:*** X, Y and Theta with micrometer spindles, motorized Z-axis thickness variation
    a. X and Y directions: ± 5 mm
    b. Theta: ±5° or better.
    c. Mechanical accuracy: 0.1 μm

11. ***Automatic Wedge compensation system***

12. ***Top side alignment microscopes:***
    a. Travel range: X = ± 40 mm; Y = 80 mm
    b. Objective separation: 35 to 150 mm
    c. Two eyepieces: 10X
    d. Pairs of objective: 5X, 10X, 20X

13. Light Source for Top Side Microscopes.
14. Mask holders for holding Masks in the range 2.5 x 2.5 inch to 5×5 inch with exposure opening for wafers of 2, 3 and 4 inch diameter with displaceable stop pins.
15. Wafer chucks for 2, 3 and 4 inch diameter wafer loading for vacuum, hard-soft contact exposure and proximity contacts.
16. Double membrane oil-free vacuum pump with connectors (220 V/50 Hz)
17. Separate intensity power meter and sensor for calibration.
18. At least one spare lamp for the mask aligner.
19. **Optional**: Facility for **Back Side Alignment** including complete system with back side alignment microscopes and CCD cameras.
20. **Vibration Isolation table** matching the Mask Aligner must be included.
21. All the spares required during installation should be provided by the supplier.

ADDITIONAL OPTIONS:

These may be quoted separately as optional capabilities of the equipment. All options must be fully compatible with the above specified configuration.
1. **Spares** not included in the above system and needed for normal or additional operation for one year should be mentioned separately.
2. **Warranty:** for two years excluding consumable parts like lamps etc for Mask Aligner and spinner.
3. **AMC**: For next three years without spares.

Interested suppliers/manufacturers are kindly requested to submit/send technical and financial bids (*FOB New Delhi, financial and technical bids in separate sealed covers*) for the above mentioned equipment by **5:00 PM, 23rd March 2012**.

I. ALL BIDS MUST HAVE THE FOLLOWING INFORMATION.

1. *Supplier must mention the following details about the warranty:* Number of years, starting date (from the date of installation or date supply). Additional charges in case extended warranty is required. Also mention if different components have different periods of warranty.
2. Please indicate the warranty is at customer site or not.
3. Please indicate the critical spares and their expected life time.
4. Quote the prices of listed accessories separately.
5. Delivery period must be clearly mentioned.
6. Validity of the quotations should be at least for 90 days.
7. All quotations must be F.O.B. New Delhi.
8. Please provide user list of similar systems installed within India and abroad.
9. Specification compliance certificate
10. Bank details on which the letter of credit is to be issued

II. PLEASE NOTE THE FOLLOWING POINTS

1. Mode of payment will be through letter of credit in case of imported items. Any advance payments shall be approved only as per IIT Delhi norms.
2. The Institute has the right to accept or reject any or all quotations without assigning any reasons.
3. The bidder must submit quotation for at least for one full experiment**.** Quotations for individual parts will be rejected.
4. Since, the equipment is meant for teaching purpose in a reputed educational institute in India, a special price discount may be offered.

The sealed quotations must be submitted to:

Prof. B.S. Panwar
Block III, Room 213
Centre for Applied Research in Electronics
Indian Institute of Technology Delhi
Hauz Khas, New Delhi – 110016 (India)
OR
Office of Head Centre for Applied Research in Electronics
Room No. 212
Centre for Applied Research in Electronics
Indian Institute of Technology Delhi
Hauz Khas, New Delhi – 110016 (India)

Pre-bid Meeting with the vendors: 11:00 A.M, 16th March 2012

DEADLINE for submitting the quotations**: 5:00 PM, 23rd March 2012**

Note: There will be presentation by all vendors on 24th March 2012 on the technical specification and compliance of the specification in the CARE Committee Room starting at 10.00 A.M. The quotation of the vendor not present will be rejected.

For any clarification please send E-mail to: bspanwar@care.iitd.ernet.in and schandra@care.iitd.ernet.in