

October 7, 1999

## **Instructions to Vendor of 3-in-1 Cards**

1. The total number of finished boards is to be 11,225.
2. The vendor is responsible for parts procurement (except for schematic items U4 and U5 as noted in item 6 below), printed circuit board (PCB) fabrication, component mounting, and the preparation and mounting of cable assemblies.
3. The finished boards must conform to the Gerber files, parts lists, and mechanical drawings supplied by the University of Chicago.
4. At the conclusion of the contract the vendor should return to the University of Chicago an extra unassembled quantity of 5% of all parts, including the printed circuit board. These will be used for future maintenance.
5. Parts are to be purchased according to the type and manufacturer specified in the parts order list. Any substitutions must be approved by H. Sanders of the University of Chicago.
6. Two parts, U4 and U5, will be supplied by the University of Chicago because of the lot qualification procedure required.
7. The PCBs should be fabricated with FR4 material having a minimum transition temperature of 150°C.
8. Prior to production of any PCBs the artwork must be inspected and approved by the University of Chicago.
9. The boards may be panelized for production but the finished boards must conform to the supplied mechanical drawings and be thoroughly cleaned prior to delivery.
10. Prior to assembly, the PCBs should be 100% tested for shorts and continuity according to the supplied net list.
11. The University of Chicago has volume pricing agreements with Wyle Electronics for Comlinear components. Wyle should be one of the bidders for parts and the RFQ should mention the University of Chicago. The contact at Wyle is Michael Camizzo at 630-620-0969.
12. The Altera part U4 is moisture sensitive. Procedures indicated on the packaging material should be followed, including if necessary baking prior to mounting.
13. Vendor will affix self-adhesive serial number bar-code labels supplied by the University of Chicago on header J1. Serial numbers will correspond to the production sequence of the component placement process. Serial numbers, together with the date, time, machine, and

operator will be logged at the start and stop of each production run and at the time of any anomaly in the production. A copy of this production log will be provided to the University of Chicago.

14. The first shipment will be 50 completed cards. These will be sent to the University of Chicago for testing and approval. Further production should be placed in a hold status until these tests are complete and satisfactory. This step will require fully-assembled cards to be at the university for 3 days.
15. Upon approval of the above sample of 50 cards, the first batch of 1000 cards may be shipped and invoiced. Each successive batch of 1000 cards may be shipped only after approval by the University of Chicago of a quality control sample of 50 cards. This sample may be drawn from the previous batch of 1000 or supplied as a special sample, at the discretion of the vendor. This cycle will continue until the total quantity is delivered.
16. Guarantee – The vendor shall be responsible for all workmanship attributes and for the quality of the components that they supplied for this project. Since the final testing will not be complete for a period of one year after delivery of the final assembly, the period of warrantee shall be an equal period of one year.
17. The vendor agrees to correct workmanship errors and part deficiencies in the assemblies that have been indicated and located by tests at the University. The corrections shall be made in 10 working days.
18. Ten percent of the contract price shall be withheld and then paid as a monthly annuity as the period of guarantee progresses. Upon completion of this period the entire contract shall be totally fulfilled.
19. The University of Chicago is willing to consider a proposal for advance payment for parts but prefers payment upon the delivery of finished cards. The payment schedule will be agreed to in the final contract.
20. Price quotations are requested within two weeks. A delay of more than three weeks will be considered a no-bid. Quotations should include price, delivery schedule, and any special conditions.
21. First delivery is requested no more than 10 weeks after receipt of order. All deliveries should be complete within 6 months from receipt of order.

Shipping address:

Electronics Development Group  
Enrico Fermi Institute  
University of Chicago  
5641 S. Ingleside Ave.  
Chicago, IL 60637

University of Chicago contact:

Mr. Harold Sanders, Head of Engineering  
harold@frodo.uchicago.edu  
773-702-7801