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http://www.electronic-source.com

## REQUEST FOR QUOTE GUIDELINES

ESC builds products either on a consigned basis, where components and unpopulated printed circuit boards (PCBs) are supplied by the client, or full turnkey, whereby ESC procures all of the components, PCBs, metalwork, labels, packaging and anything else required to complete the assembly. Various turnkey services are provided. They include New Product Introductions, Design For Manufacturability Reviews, Quick Turn Assemblies, Prototype Builds and Volume Production Assemblies. Mechanical Assemblies, Testing, Burn-In, and Warranty Repairs are available on a select basis.

We prefer that information be provided in electronic format. Bills of Materials are normally supplied as Excel spreadsheets or delimited text files. Assembly drawings are most easily read as PDF or Gerber files. PCB information is supplied as Gerber files, preferably with embedded aperture lists. Ideally, the following information is provided in order to provide a quotation:

**Bill of Materials (BOM):** include revision level, component description, device package type, reference designators (i.e. R1, U4), and quantity per assembly. For turnkey quotes, please include the Approved Vendors or Manufacturers List (AVL, AML) and manufacturer part number for each BOM item, along with any special pricing arrangements that may have been established with particular vendors.

**PC Board Information:** Send the Gerber files as you would to a board vendor for quotation. Please include any applicable PC board fabrication specifications (in a readme text file) as well as paste mask layer and XY coordinate information (in ASCII text file format) for SMT boards. For panelized SMT boards, provide a panelized version of the paste mask layer generated from your PCB fabrication supplier.

**Assembly or Mechanical Drawings:** Include the silkscreen and pad layer for PCBs. In addition, any applicable drawings or instructions for top-level PCB assembly, mechanical or final assembly is recommended.

**Quantity and Schedule Requirements:** Include annual volume requirements and anticipated delivery schedule. For turnkey orders, the quantity and schedule can impact the cost of components.

**Sample or Gold Board:** If available, please send a sample board with all of the components installed. A sample board will clarify many assembly issues not obvious from drawings, even if the board is an earlier, yet similar revision.

**Test/Burn-in Requirements**: Include a copy of any test procedure showing all equipment used. ESC provides standard test and computer equipment. Specialized test equipment can be consigned to us, leased or purchased as required. We can also develop automated functional test jigs and fixtures as required.

**Quality Standards:** ESC has been ISO 9000 Certified since 1997 and IPC/ANSI-J-STD-001 certified since 2002. ESC adheres to IPC-A-610C Class 2 workmanship standards on all assemblies. If anything above and beyond these industry standards is required, please specify. Adherence to these standards provides customers with assurance that our products and services are of the utmost quality available.

**Documentation:** Please submit all documentation to: <u>data@electronic-source.com</u> or fax to: (818) 988-7841.