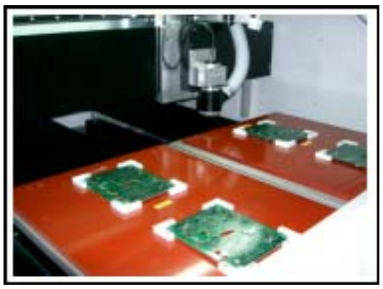
# Depaneling Router R2200


**The new depaneling RouterR2200 is packed with even more features! Tool bit optimisation feature, extends the life of the router bit. Running on Windows 2000/ XP, the upgraded software prompts the operator when the vacuum bag is full, when to change the router bit or when there is an error.**

**A separate vacuum hose allows the operator to use it as a vacuum cleaner during maintenance. Spindle speed up to 60,000 rpm controlled via PC and is air cooled with min. maintenance !**



| Machine Specifications | |
|---|---|
| Machine External Dim. | Lg 1100 x W1000 x H 1400 (excluding monitor and tower light) |
| Table size | 2x tables. Each table size 500mm x 400mm |
| Position Motor Drives | Close Loop with feed back system . Total : Y axis-2x; X axis-1x; Z axis-1 |
| Positional Accuracy/ Resolution | +/- 0.02mm/0.002mm |
| Programable Feeds | up to 100mm/sec |
| Type of Feeds | Straight lines, arc, and circles. |
| Controls | Windows 2000/XP with PTS operating software. Real time process monitoring. |
| Programing Capabilities | Teach in- using keypad or by joystick. Same or different models on each table. |
| Spindle rotation speed | Variable up to 60,000 rpm. Programmable via computer. |
| Type of Spindle | Air cool, Spindle runout 0.002mm, 1/8" collet - German make. |
| Tool Bit Optmisation | Programmable using entire cutting flute of router bit. |
| | Alarm for router bit change. |
| Camera./Laser Pointer | High resolution pixel camera with laser pointer to indicate route area. |
| Vacuum and filter System | Integrated into system with build in vaccum cleaner for maintenance. |
| | Alarm for vacuum bag change. Overload relay for vaccum pump. |
| | Build In Vacuum Cleaner. |
| Safety | Door/panel interlocks, Sliding door interlocks during routing process. |
| Options | Gerber, CAD file transfers, fudicial referencing, broken tool bit detection, |
| Facilities/Power consumption | 220VAC 1 phase/2.2 KW |

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# Points to Consider When a Selecting Router

**W**hen selecting a depaneling Router, the most important feature to look for is the Routing Spindle. The Spindle must be well rated to take the load of the cut. High Frequency spindles running on DC brushless motor allows for spindle speed changes up to **60,000 RPMs!** The Spindle runout (concentricity) must be near perfect and should not be more than 0.002mm. These Spindles normally requires minimum or no maintenance at all. Spindles must preferably be **Air Cooled** as water cooled spindle requires maintenance and an additional water pump, heat exchanger, hoses and therefore more related problems..

The machine build must be sturdy and with minimum vibration. This will result in a faster and smoother edge cut and enhance the router bit tool life. Features like **tool bit optimisation** increases tool life by maximising the use on the length of the cutting flutes. The user input the number of cuts (in mm) before the spindle automatically moves downwards (normally by 2mm) to engage in the bit new cutting edge. Some system even prompt the user to change tooling bit before it wears off and get broken.

Select a system that uses **motors that provide a close loop positional feed back system** for driving the axis which uses precision slides and ball screws. Some manufacturers uses stepper motors which are cheaper and which do not provide a close loop positional feedback system. Stepper motors are also slow and noisy.

Ensure that the software must run on the **latest operating software** and not on old version DOS or even on Windows 98. Imagine the frustration of trying to get a replacement when the system breakdown! Worst still the old cards which uses the ISA slots are no longer available on most mother boards. It may render the whole machine being a white elephant .

During the routing process, minimum dust must be deposited onto the board. A brush enclosing the routing bit serves two purposes. First, it creates a vacuum chamber like. Secondly, it loosened up any dust depositing onto the boards and contains it from flying around. By doing so, no antistatic air fans/guns are required.
**Vacuum Bag Full - Alarm** is an important feature as it protects the exhaust pump from overworking and getting burnt. When the vacuum bag is full, the suction power is greatly reduced and this will result in the dust created during the routing process to be deposited onto the work piece or around the machine. Alarm via the monitor is normally activated via a pre-set vacuum switch located in the Vacuum bag compartment. A **Build in Vacuum Cleaner** using the same build in vacuum pump gives good reason for the maintenance technicians to be happy about. Afterall, sometimes looking for a vacuum cleaner is difficult and the end result is that the machine is not properly serviced.

Finally, look out for the routing capacity. The size of the worktables and ensure that the routing area covers the whole routing table. Programs must be able to run separate models on different tables. The distance from the spindle to the edge of the worktable must be minimum to reduce non-value added traveling time.There must be a programmable servo driven Z axis stroke (not air cylinder) to reduce the Z non value added movements. Camera, laser pointer are a must to assist in the programming. Supporting options like fudicial board recognition referencing, Gerber/CAD data transfer, broken bit detection are available.

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