

BUILT ON AUTOBLOCKS · CASE STUDY

PCB ROUTER GANTRY DEPANELING CELL

2× panels per hour at delivery. And no idle gantry, ever.

EMS DEPANELING · OEM PRODUCT · DISTRIBUTED BY FANCORT INDUSTRIES



2×

PANELS PER HOUR VS.
SINGLE-TABLE ROUTING

5

COORDINATED AXES INCL.
ELECTRONICALLY GEARED
X GANTRY

0

IDLE GANTRY TIME —
LOAD WHILE ROUTING

Two work tables. One gantry. The router never waits — operators load one fixture while five coordinated axes depanel the other. Standardized for EMS, configurable per product, distributed by Fancort Industries.

The Challenge / The Solution / The Outcome

PCB ROUTER
GANTRY DEPANELING
CELL

THE CHALLENGE

EMS contract manufacturers route panel mixes that change shift to shift — from rigid FR-4 to flex assemblies, single-up to large panelized arrays. Most depaneling routers are designed around a single fixture: load the table, route the panel, unload, repeat. The gantry sits idle through every load-unload cycle, capping throughput well below the spindle's actual cutting capacity.

Operators stack panels at the door waiting for table access. Production engineers add a second machine to keep up — doubling floor space, capital, and operator headcount before doubling output.

THE SOLUTION

The Autoblocks PCB Router solves the idle-gantry problem with a **twin-table architecture**: two independent work tables driven by dual auxiliary axes, with the routing gantry serving both. While one table is being loaded and unloaded behind the light curtain, the gantry depanels on the other.

A large-format three-axis gantry — with an **electronically geared X-axis** for dual-side support and zero rack twist — covers the full work envelope at speed. Five coordinated axes run on one Autoblocks Control Block, with a category-3 safety controller mediating operator access and light-curtain state. Operator-loading logic is recipe-driven from the Pendant; start, stop, and table-state transitions are interlocked so the operator never wonders whether it's safe to reach in.

THE OUTCOME

Up to **2x panels per hour** vs. single-table routing on equivalent panel sizes — without adding floor space, operators, or programming complexity. AutoCode handles the depanel path, table sequencing, and load-side staging in one program; new products are added by editing a recipe, not by re-engineering the cell.

EMS engineering teams provision the machine once for their lineup and let production change it over from the Pendant — most changeovers under five minutes, no PLC code touched. Built as a standard OEM product on the Autoblocks platform and distributed by Fancort Industries, the PCB Router gives EMS providers a depaneling solution that scales with their mix instead of locking them to a single fixture. That's the difference between buying a machine and buying a platform.



CELL ARCHITECTURE

- ▶ **Controller:** Autoblocks Control Block — motion, logic, safety, HMI in one
- ▶ **Motion:** 3-axis large-work-area gantry + twin auxiliary axes (5 axes total); X-axis electronically geared for dual-side support
- ▶ **Stations:** Twin work tables, independent dual-side loading
- ▶ **Sensing:** Part-presence on both tables, table-state interlocks
- ▶ **Process:** Routing spindle with bit-life tracking
- ▶ **HMI:** Autoblocks Pendant — recipe selection, table control, live OEE/yield/cycle
- ▶ **Programming:** AutoCode + Autoblocks Studio
- ▶ **Safety:** Cat-3 safety controller, perimeter light curtains, interlocked access
- ▶ **Configurable for:** Panel size, fixture, bit set, dust extraction — per EMS line

OEM
DISTRIBUTION
PARTNER



THE PLATFORM DIFFERENCE

Most depaneling routers are **frozen at delivery** — one fixture, one panel size, one program. The Autoblocks PCB Router is configurable from the Pendant. EMS engineering teams add new products by editing a recipe, not by calling the vendor.



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Designed & Manufactured in USA