



The CIRCUITSTITCH-15 — a single-head, 15-needle 360°-rotary platform for sampling embroidered circuits, antennas, and sensors.

CONDUCTIVE STITCHING • 360° HEAD

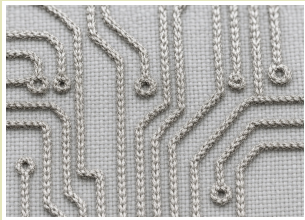
CIRCUITSTITCH-15

Embroidered PCBs, antennas, and surface sensors — the sampling head.

The single-head sampling counterpart to the BATCHCIRCUIT-5 production line. A 15-needle colour range and a 360°-rotating R-series head give true any-direction trace routing without rotating the workpiece — the fastest way to prove a design before scaling it five-up.

WHY THIS MACHINE

Lay a meander antenna, drop in a capacitive touch pad, jumper a trace, and route a piezoresistive grid — in one DST file, on one head. Fifteen needles means you can pre-load conductive, insulating, sacrificial, and gradient threads and let the colour change call them up in sequence.



Conductive traces on woven substrate

CAPABILITIES

- Silver-plated nylon, kevlar, carbon nanotube, water-soluble thread
- Capacitive and piezoresistive sensor geometries (all types)
- Embroidered patch, monopole, and meander antennas
- Sacrificial routing for free-form conductor patterns
- 15-needle thread library — multiple conductors loaded at once

IDEAL FOR

Wearable electronics groups, antenna researchers, and sensor labs scaling beyond bench coupons.

SPECIFICATIONS

Configuration	15 needles × 1 head, 360° rotary
Functions	Flat • Cap • Finished garments
Embroidery area	350 × 500 mm
Maximum speed	1,200 spm
Control	12" colour touchscreen LCD (17-language)
Memory	20,000,000 stitches • 200 designs
Stitch length	0.1 – 12.7 mm
Voltage	Standard 120 V (wide-input 80 – 260 V)
Power	150 – 160 W — quiet operation
Net weight	100 kg
Standard accessories	Cap driver, cap station, 2 cap frames, garment frames (9/12/15/19/30×30 cm), 58×36 cm flat frame, steel stand, auto winder, tool kit

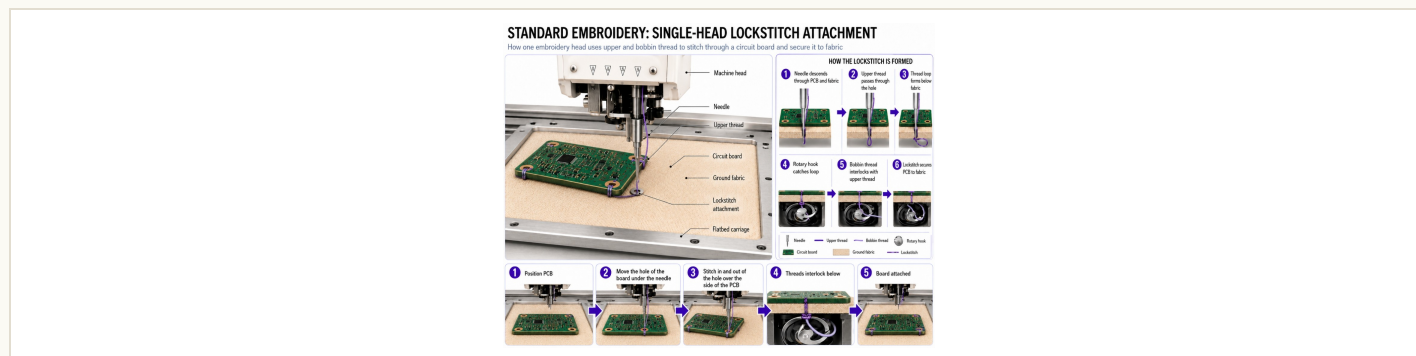
SAMPLING Bring your spec — we'll stitch a sample on this platform at our showroom.

PRICING Contact for current pricing and availability.

WHERE A DESIGN GETS PROVEN

Embroidered Circuits, Any Direction

The 360°-rotating head routes conductive thread in any direction without turning the workpiece — so antennas, capacitive pads, jumpered traces, and piezoresistive grids all stitch from a single DST file. Prove the geometry here on one head, then hand the proven file to the BATCHCIRCUIT-5 to run it five-up.



THE PROCESS • SINGLE-HEAD LOCKSTITCH ATTACHMENT

How attachment works

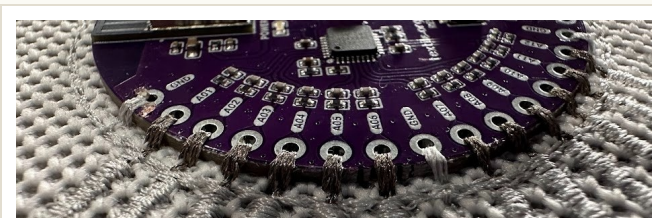
The board is positioned and its mounting holes move under the needle, which stitches in and out over the edge of the PCB. Upper and bobbin thread interlock below the fabric, forming a lockstitch that secures the board — and the same head routes conductive thread into traces, pads, and antennas across the substrate.



SENSOR COUPON • CAPACITIVE / PIEZORESISTIVE

Radial sensor array

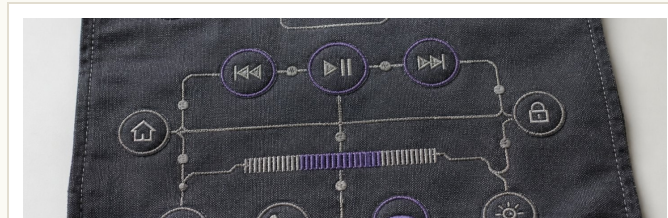
A round sensor board with conductive traces fanned out to a ring of silver electrode pads stitched on fabric — a capacitive / piezoresistive coupon sampled on one head before scale-up.



WEARABLE • SENSOR PATCH

Round sensor patch

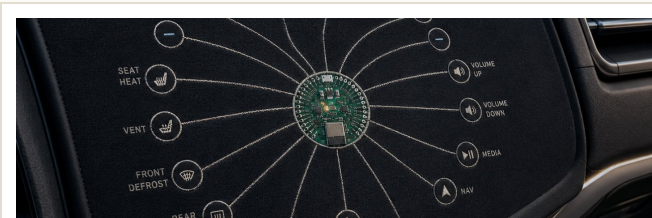
A round sensor board bonded into stretch knit with a ring of stitched leads — a wearable circuit substrate prototyped on the 360° head before it goes to production batches.



CAPACITIVE • TOUCH INTERFACE

Embroidered touchpad

A media-control touchpad rendered entirely in conductive and decorative thread — capacitive pads and traces routed in any direction by the rotating head.



SMART TEXTILE • AUTOMOTIVE

Embroidered control surface

A full set of capacitive controls stitched into a dash panel, each icon wired back to a central board with conductive thread — a smart-textile interface proven before tooling for volume.

The bench before the line. Conductive, insulating, sacrificial, and gradient threads load across fifteen needles and the 360° head routes them in any direction — sampling embroidered PCBs, antennas, and surface sensors at production speed, then handing the proven DST file straight to the BATCHCIRCUIT-5 for five-up runs.