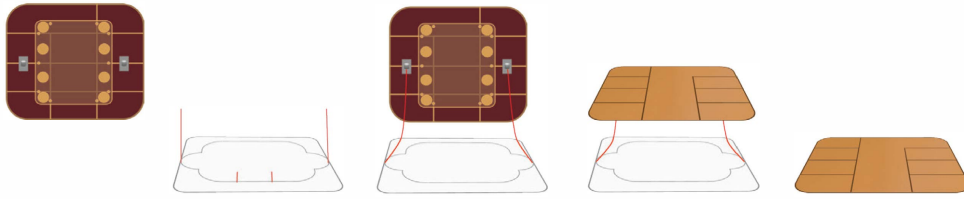


# The DUET Series

Dual Interface Milling & Embedding



**Module Preparation**

**Antenna Preparation**

**Direct Solder**

**Wire Dressing**

**Module Embedding**

## DUET Direct-Solder Technology

from Cardmatix drives the most reliable method for manufacturing dual interface cards in the industry.

The DUET Series of dual interface production lines are offered in both fully automatic and semi-automatic versions.

Both require the use of the MPM-01 automatic module preparation machine.



### DUET MPM-01

Dual Interface Module Preparation

- Pre-Solder
- Leveling Solder Bump
- Glue Tape



### DUET APM-01

Dual Interface Antenna Preparation

- Cavity Milling
- Antenna Preparation
- Antenna Pulling



### DUET CEM-01

Dual Interface Module Embedding

- Antenna Soldering
- Module Embedding

**Output:** 2400 Modules/Hr  
**Voltage:** 380VAC 50/60 Hz

**Power:** 5.1kW

**Compressed Air:** 6kg/cm<sup>2</sup> 130 L/min

The fully automatic MPM-01 prepares modules while they are still in tape form by first 'tinning' or pre-soldering the antenna connection pads.

The tinning process leaves a solder bump on the antenna pads which is milled to a consistent height for precise attachment of the antenna leads on the CEM-01. Traditional hot-melt glue tape is applied in the same production pass.

**Output:** 1200 Cards/Hr  
**Voltage:** 380VAC 50/60 Hz

**Power:** 10.2kW

**Compressed Air:** 6kg/cm<sup>2</sup> 220 L/min

The semi-automatic DUET APM-01 mills the module cavity and prepares the antenna for soldering to the dual interface module.

This machine was designed specifically to be added as an upgrade to existing CEM-01's to fully automate the DUET direct-solder process.

**Output:** 1200 Cards/Hr  
**Voltage:** 220VAC 50/60 Hz

**Power:** 3.7kW

**Compressed Air:** 6kg/cm<sup>2</sup> 90 L/min

The semi-automatic DUET CEM-01 is used to attach the antenna wires to the pads on the back of the dual interface smart card module.

Antenna soldering is done with TC bonding technology to ensure a high quality physical connection between antenna and module.