

WaveRIDER® NL 2

KNOW THE PAST... PREDICT THE FUTURE

WAVE RIDER® NL 2

The wave soldering process is one of the most challenging procedures to set up. The ECD WaveRIDER® NL 2 greatly simplifies wave solder set up and ensures perfect repeatability, time after time. Board recipe preheat temperatures, conveyor speed, wave height, contact times and parallelism are all measured and monitored using the WaveRIDER® NL 2 process pallet.



www.ecd.com/products/waverider

Users\Documents\MOLE MAP\w...
M.O.L.E.(r) Machine-Oven Assembly-Board Process

CAUTION
SURFACES MAY BE HOT
U.S. Patent #5,767,424
ECD
www.ecd.com 1-800-323-4548

Process Data
T10 Init-NoPaste
File: waverider_test_11.xmg
Max Internal Temperature: 31.00
Battery Voltage: 5.0400
Log Interval: 0.10 sec
Data Points: 1385
Date/Time: 04/18/2004 20:23:17

Channel	Min°C	Max°C	Max (+) Slope °C/sec	Time Above sec
22	84.4	125	3.7	0.0
23	22.2	125	8.9	0.0

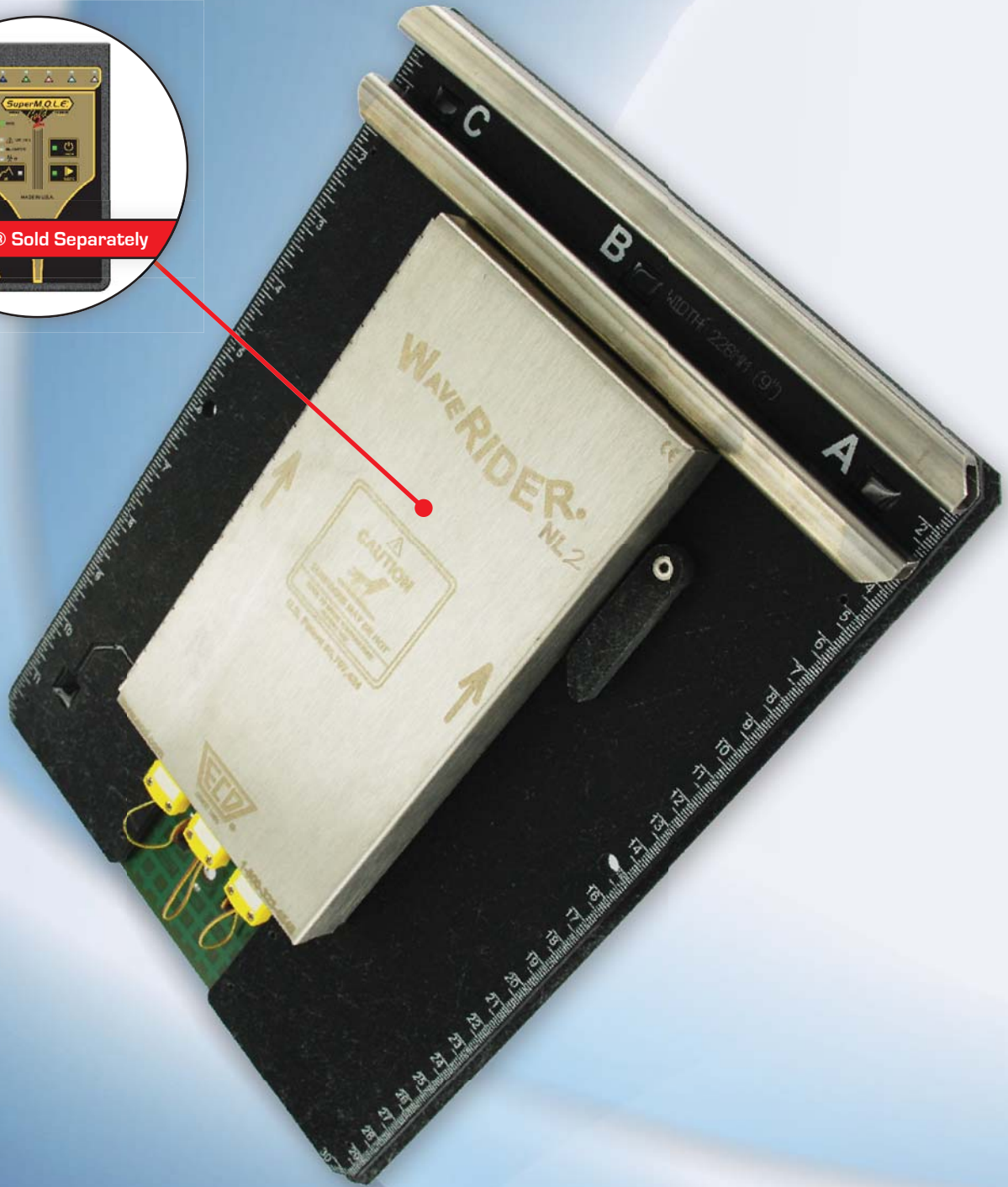
Preheat
Temp: 84.4 °C
Temp: 22.2 °C
Slope: 2.5 °C
Conveyor Speed: 154.77 cm

Electronics FOOD/BAKING SOLAR INDUSTRIAL

Simplify your Wave Solder Setup



M.O.L.E.® Sold Separately



Excellence in Measurement Solutions Worldwide

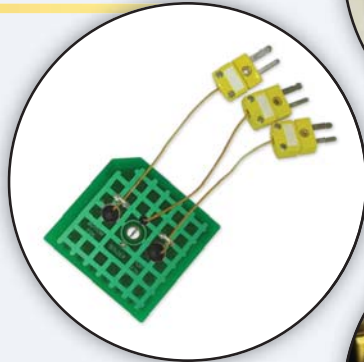
THERMAL BARRIER

This is the thermal protective barrier for the M.O.L.E.®



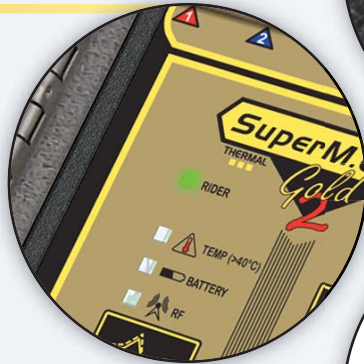
REPLACEABLE TEST COUPON

Polyimide 3-thermocouple circuit board



RIDER LED

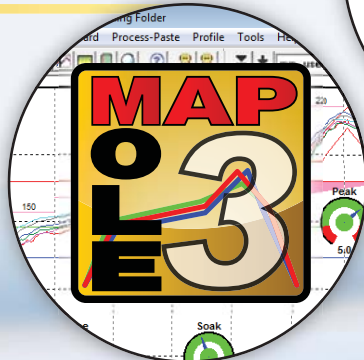
The Rider LED Indicates when SuperM.O.L.E.® Gold 2 is connected to a WaveRIDER® NL 2 test pallet.



M.O.L.E.® MAP SOFTWARE

Download and analyze the data with the ECD award winning software.

- SPC tells you when a parameter gets out of Spec before it's out of control
- Key Parameters: Preheat Ramp, Delta T at Wave, Solder Temperature, Top & Bottom side Board Temperature, Immersion Depth, Wave Parallelism, & Conveyor Speed



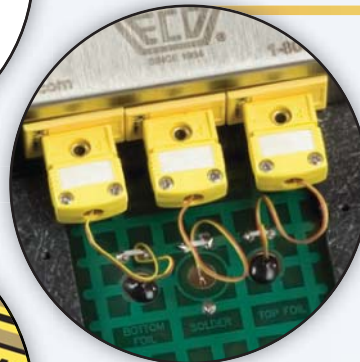
DWELL SENSORS

Time spent in immersion across the solder pot also provides critical Contact Length, Immersion Depth and Parallelism data. Manage (SPC) optimum and repeatable board-to-wave orientation, icicles mitigation, conveyor finger maintenance, adequate pot replenishment, auto-start and pump maintenance.



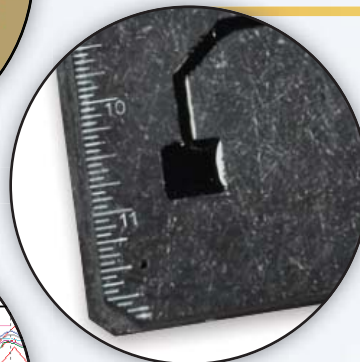
COUPON SENSORS

Three thermocouples are aligned with the Speed Sensor. Coupon Top, Bottom and Solder record board temperatures, Preheat Max Temp (top side), Preheat Max Slope, Wave surface temperature and Delta T at Wave. Provide key wave soldering measurements to verify machine readiness for production (SPC).



SPEED SENSOR

Time delay between the "C" and Speed Sensors striking the main wave is used to calculate conveyor speed for every run to verify consistency (SPC) and catch an incorrect recipe setting. Creates event triggers for Coupon Sensors too.



SPECIFICATIONS

PHYSICAL: WaveRIDER® NL 2

Length: 305 mm [12in.]

Height: 33 mm [1.3in.]

Width:

- Standard: 229mm [9"], 305 mm [12"], 381mm [15"], 458 mm [18"]
- Custom: >145mm [5.7"]

Weight:

- 9": 1.36 kg [3.0 lbs]
- 12": 1.72 kg [3.8 lbs]
- 15": 1.86 kg [4.1 lbs]
- 18": 2.61 kg [5.75 lbs]

Max. Operational Temperature (Pallet): 300°C [572°F]

PALLET SENSORS

6 - Distance/Time & Coupon

Special Limits of Error K-Type thermocouple wire
(± 1.1°C or 0.4%, whichever is greater)

DATA ACQUISITION: SuperM.O.L.E.® Gold / 2

Data Capacity:

- SuperM.O.L.E.® Gold: 9 minutes 6 seconds
- SuperM.O.L.E.® Gold 2: 2,500 minutes (100% memory)

Time Accuracy: ±10 millisecond

Time Resolution: 0.1 Second

Temperature Accuracy: +/- 1°C [1.8°F]

Temperature Resolution: 0.056°C [0.1°F]

Measurement Range:

- SuperM.O.L.E.® Gold: 0°C to 300°C (32°F to 572°F)
- SuperM.O.L.E.® Gold 2: -200°C to 1271°C (-328°F to 2320°F)

PATENT

U.S. PATENT No. 5,767,424

WARRANTY

1 year parts and labor

WEBSITE

www.ecd.com 

SYSTEM KITS:

WaveRIDER® NL 2 Standard Systems

- E36-9285-00: 229 mm [9 in.] wide pallet
- E36-9285-02: 305 mm [12 in.] wide pallet
- E36-9285-05: 381 mm [15 in.] wide pallet
- E36-9285-08: 458 mm [18 in.] wide pallet

WaveRIDER® NL 2 Custom System

- E36-9285-12: >145mm [5.7in.] wide pallet

KITS INCLUDE:

WaveRIDER® NL 2 Pallet

- Includes 6 sensors & Thermal Barrier

M.O.L.E.® MAP Software

Lead-Free Polyimide Test Coupon

Quick Reference & Expert Guides

Carrying Box

1 year warranty on materials and workmanship



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• Top rated customer support • No-cost ECD Online Training • Award winning software •