ERSA IR/PL 550

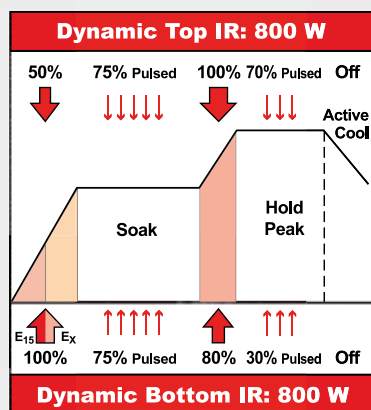The Best Selling Rework System

The IR/PL 550 is one of the best selling and most wide-spread rework systems in the world and offers the best cost/performance ratio. This system is designed for small to medium size PCBs and has proven itself to be the "Workhorse" in our rework product line. The IR/PL 550 is a unit which offers the greatest flexibility for operators to best interact with their system in order to handle the most complex SMT and THT rework applications.

The IR Rework system is broken down into four basic operational modules:

I. **IR 550** Selective Reflow module
II. **RPC 550** Reflow Process Camera module
III. **PL 550** Precision Placement module
IV. **IRSoft** Software module (see pages 16 & 17)

Recommended Accessories:

It is recommended to purchase the Process Cooling Fan (p. 21) with the IR 550. When the IR 550 is not used in combination with the PL 550, it is highly recommended to purchase the the X-Y Table (p. 23) and the RPC 500 (p. 13). Additionally, it is helpful to purchase the Rework Starter Kit (p. 21). Special desoldering tools, such as the Chip Tool for small SMD removal and the X-Tool for TH desoldering can be connected to the solder station integrated into this system. For ordering details, please refer to the ERSA Tools catalogue. A complete listing of all rework accessories can be found on pages 20 - 23.
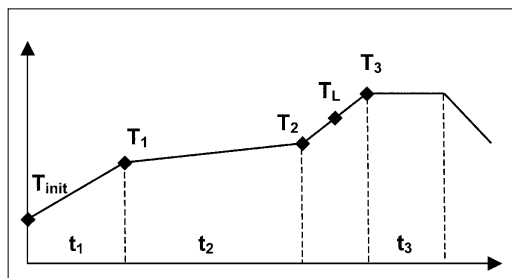
SMT Vision Award:
*Best New Rework Product,
APEX, USA, 2002*

ERSA IR 550

The Best made even Better!

*The IR 550 plus now affords greater profile flexibility
with a flat peak*

The IR 550 is the "Best Seller" in the ERSA rework line with thousands systems sold. This module uses DynamicIR heating technology for fully automatic dynamic control of the top (800 W / 60 mm x 60 mm) and bottom (800 W / 135 mm x 260 mm) IR heaters. Depending on board size, thermal mass of the substrate, and component size, the DynamicIR heaters (total of 1,600 W) guarantee that the required heat energy is delivered at the precise time and location in order to ensure that the component exactly follows the prescribed temperature profile. Combined with the enhanced capability to run a flat peak, this revolutionary technology affords the lowest temperature deltas across the component, and greatly reduces PCB warpage.

IR 550 Module Features:

❚ DynamicIR & Closed Loop selective reflow process

❚ 2 channel temperature recording:
  1 IRS sensor, 1 AccuTC thermocouples (K-type)

❚ Laser pointer for component ID & PCB positioning

❚ Manual reflow head with auto component lift-off

❚ Integrated axial top cooling fan

❚ Integrated digital soldering station with soldering iron

❚ Remote control via mouse or PC using IRSoft

Ordering information:

0IR550A   **Rework System IR 550 (without X-Y PCB table)**
                (incl. IRSoft, 1 x AccuTC and soldering station)

0IR5500-01   **X-Y PCB Table** *(p. 23) (not required with PL 550)*

For best soldering results, ERSA provides the IR 550 since 03/08 with a stainless steel grid as standard bottom radiator cover. Please order material number 0IR5500-33 if for your application a heat resistant glass cover is required (p. 21).
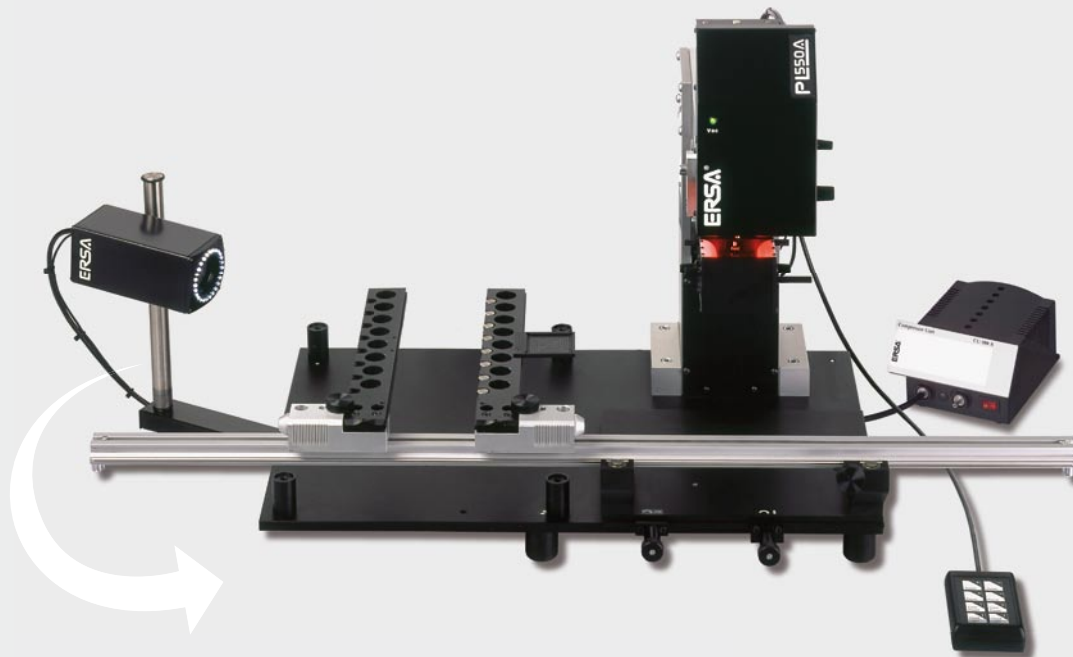
ERSA PL 550

Precision Placement System with Reflow Process Camera

The PL 550 includes the RPC 550 module. This system is both a proven precision placement system designed for the largest range of components and offers reflow process viewing. A pressure triggered component placement head drops off the component at the same contact pressure (1.5 N) as an in-line Pick & Place machine. This Auto Component drop-off guarantees safe and precise results. A high-resolution placement camera with motor zoom permits highly precise alignment of component connections to lands with up to 72 x enlargement. The excellent image quality is supported by a high-contrast, separately controlled 2 colour LED lighting system from two sides.

Recommended Accessories:

It is recommended to purchase the Split Optic Kit (p. 21) as well as additional placement nozzles (p. 20).

The RPC 550 module is a part of the PL 550 and uses a new high-power (up to 72 x enlargement) motor zoom camera, a controllable LED ring lighting system, and an extremely robust, movable stand. The reflow process can be viewed real time from multiple angles and high magnification on even the smallest of components.

PL 550 & RPC 550 Module Features:

▼ 2 each High-quality PAL CCD cameras
(18 x optical + 4 x digital zoom)

▼ Manual component handling
(from 1 x 1 mm to 40 x 40 mm in size)

▼ "Auto Component Drop-Off" at 1.5 N
(up to +/- 0.010 mm accuracy)

▼ 40 x 40 mm beam split optic for large QFPs

▼ Motorized zoom and focus; one push auto focus

▼ Two side red / white LED illumination

▼ LED ring light; multiple angle, movable arm

Ordering information:

0PL550A	***Precision Placement System** with Reflow Process Camera*
0PL550AU	***Precision Placement System** without Reflow Process Camera*
0VSRPC-UKIT2	***Reflow Process Camera Upgrade** for 0PL550AU*
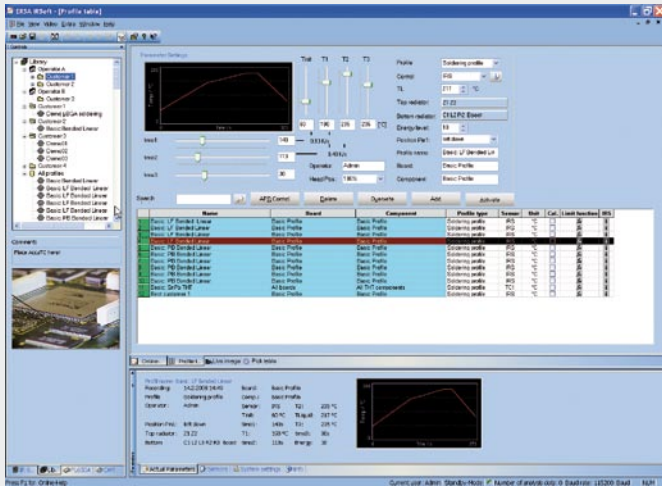
Rework temperature profile setting
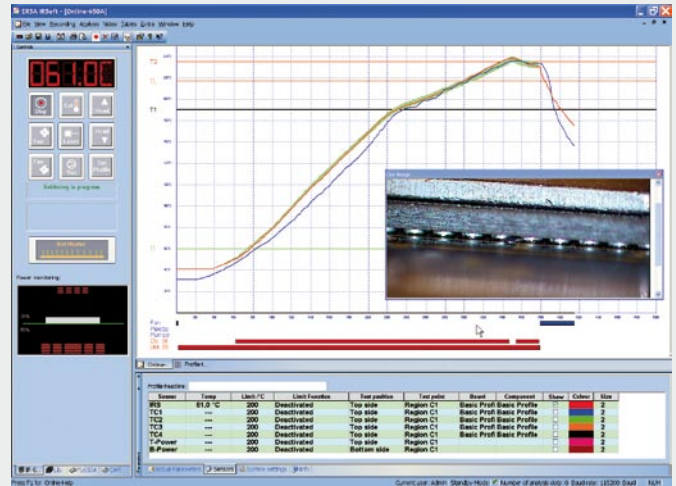
Live temperature recording with real time video process window

ERSA IRSoft 4

Unparalleled System Control & Process Documentation for Rework

With the launch of this new catalogue, ERSA has now rounded off its rework product platform from the hand held HR 100 all the way up to the flagship IR/PL 650. In keeping with our foremost goal of operator satisfaction, we are happy to present our latest update to our renowned software concept. The new IRSoft 4 is a universal, system control, process documentation and process visualization software platform designed for use with all ERSA rework systems, from the smallest to the largest. In this manner, ERSA ensures operators an easy move between systems with hardly any learning curve required.

User Friendly Software designed by Users!
Probably the greatest advantage of the IRSoft rework software platform is that is was literally co-designed by our customers in the field. Today, with 10 years of rework experience and over 5,000 systems installed,

we have continually added features and functions which were demanded by the market and have provided free updates to the existing user base. Fast and simple profiling, user level defined steps with access recognition & authorization and finally now the APR Automatic Process Repetition (see p. 5 of this catalogue) are all testimony to the continual advancement of this user oriented software platform.

The latest IRSoft offers new and clearly structured user administration options. A customized Log-In for beginner and advanced operators automatically opens only that rework system and those control options authorized for that specific individual. Additionally, the actual operating condition of all systems on-line is visualized in real time. All process steps are automatically recorded for process repeatability, documentation & traceability purposes.

For Use with All Rework Systems

IR 650

IR 550

HR 100

Controls All Modules

RPC 650 Module
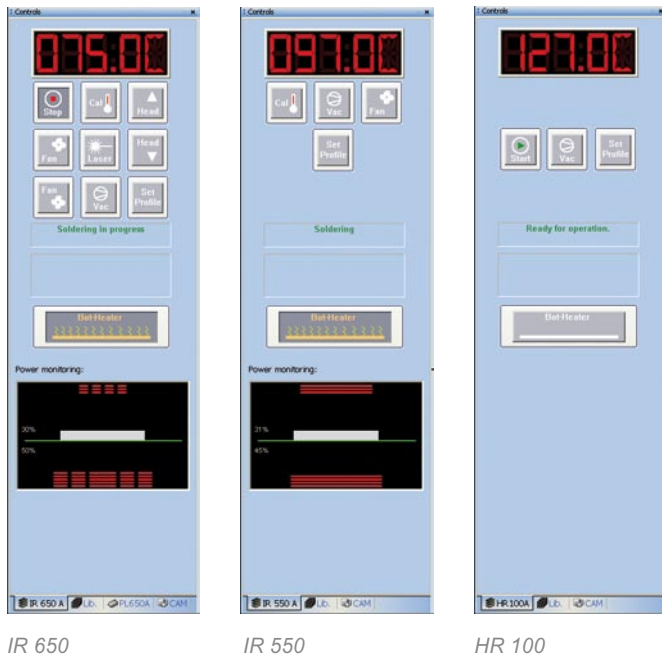
PL 650 Module

Customized Library

This universal software concept ensures that operators can easily operate the different ERSA systems without additional training requirements.

ERSA IRSoft Features:

▼ Control software for IR/PL 650, IR 550 and HR 100 (with IRHP 100)

▼ Easy to use interface with Online Help function

▼ Visualization of all rework process data with up to 5 channel temperature recording

▼ Live process video window for both the PL 650, PL 550 and all RPC modules

▼ Customized user admin rights and library for application & customer based profiles

▼ Complete Process Documentation and Analysis

▼ Operating systems – Windows 2000, XP and Vista

▼ All systems communicate over an ultra fast USB 2.0 cable included

The various functional modules contained in the ERSA rework systems can all be run with the IRSoft 4. In addition to the control of the reflow module with profile setting and temperature monitoring, the software runs the RPC and component placement modules. The explorer based, rework library databank can be customized by customer, application and or rework system.
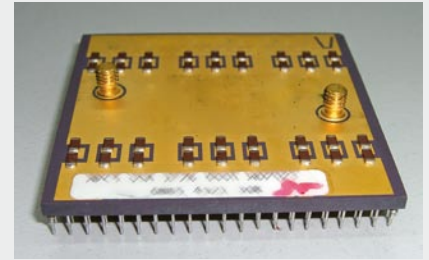

Rework process visualization with Live Image Window
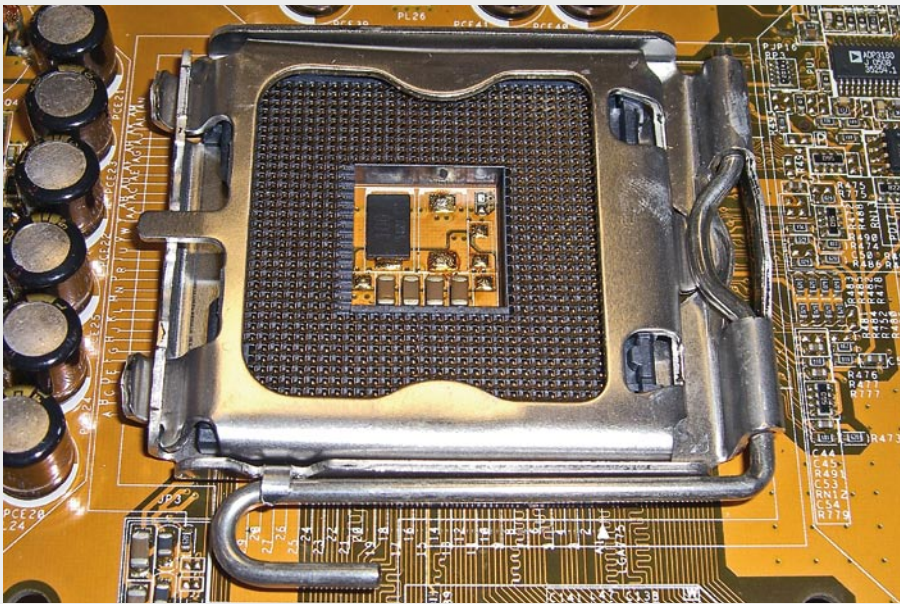
LGA 775 Processor Socket
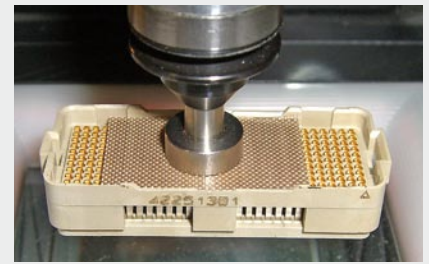
BGA Plastic Socket

Ultra Heavy Mass PGA

# Difficult Applications – No Problem!

ERSA Rework Systems Handle the Most Complex Rework Applications

ERSA IR 550 is IPC's recommended BGA reballing system (Source IPC 7711)

The purchasing decision for today's rework equipment goes to that company that can **GET THE JOB DONE!** Rework applications specialists at ERSA have proven the flexibility of our systems by handling applications where other units failed. Some of the most difficult of these applications include: stacked BGA packages (RAM, DIMM module), top & bottom side shadowed BGAs, mobile phone shield and BGA rework, rework on aluminium composite boards, BGA desoldering with heat sink glued on component, LGA775 THT-socket exchange, BGA on flex circuit, reworkable epoxies, and large plastic BGA processor sockets just to name a few. Please look closely at the application picture gallery contained on these two pages to fully understand the true versatility of the ERSA rework systems. Finally, do not hesitate to contact ERSA directly for special rework applications assistance and training material.
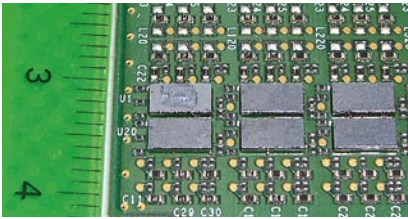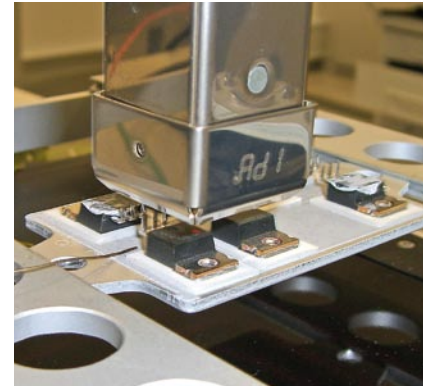
CSP, micro BGA   0201s, 0402s

Micro-FCBGA

Get the job done!

CGA with Heat Sink

TO220 on Aluminium Carrier with HYBRID
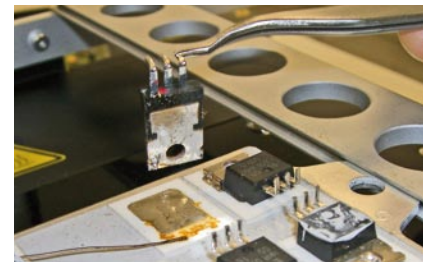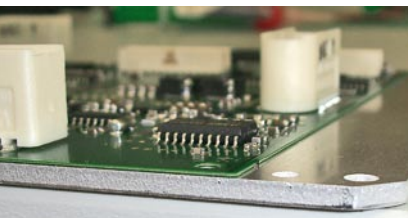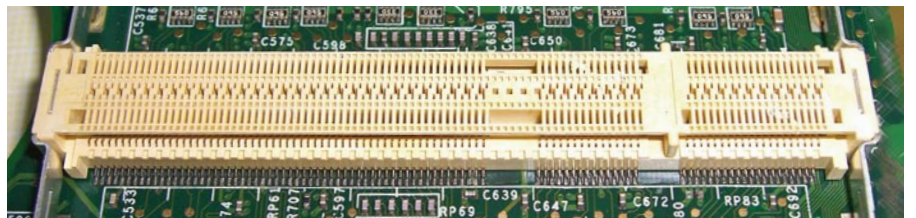

Plastic SMD Connector
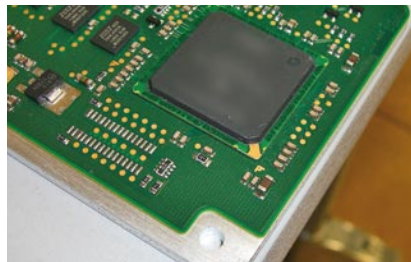
PBGA on Aluminium Carrier

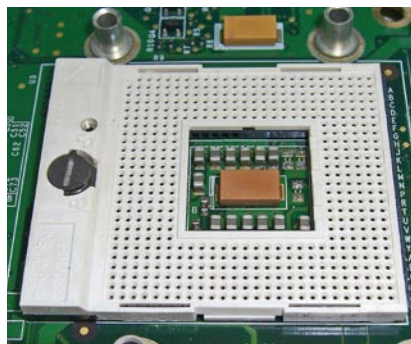*TO220 on Aluminium Carrier with HYBRID*

SOIC & Plastic SMT on Aluminium Carrier

Large Plastic SMD Connector

Heavy mass aluminium carriers, metal plates & shields, ceramic substrates and even plastic components can be safely reworked with ERSA rework heating technology!

BGA Processor Socket

BGA GPU

As all rework operators know, the key to success comes down to two things: the right equipment and the right technique! ERSA provides all tools and accessories required to perform professional rework operations. On the following pages, the most frequently purchased and highly recommended accessories are listed. Our years of rework experience with several thousand customers have allowed us to compile the most frequently purchased and most useful accessories. In each of the accessory tables below, we have included a column marked as "Starter Kit" which is the recommended Rework Starter Kit. Please consult our General Hand Tools Catalogue for more items and do not hesitate to contact ERSA directly for custom tips and accessories or visit www.ersa.com.

Placement Nozzles & Suction Cups

Precise Placement & Removal of the Smallest & Largest SMDs

	Order Number	Name	Description	Technical Data	HR 100 A	IR 550 A	IR 650 A	PL 550 A	PL 650 A	Starter Kit
●	0PL6500-13	Nozzle 0.8 mm	pick & place of smallest components	outer diameter 0.8 mm					X	
●	0PL6500-14	Nozzle 1.2 mm	pick & place of very small components	outer diameter 1.2 mm					X	
●	0PL6500-15	Nozzle 3 mm	pick & place of small components	outer diameter 3.0 mm					X	
●	0PL6500-16	Nozzle 4 mm	pick & place of medium size components	outer diameter 4.0 mm					X	
●	0PL6500-17	Nozzle 10 mm	pick & place of large components	outer diameter 10 mm					X	
●	0PL6500-18	Nozzle 10 mm/rubber lined	pick & place of heavy components	outer diameter 10 mm, rubber lined					X	
●	0PL500A-S00.8	Nozzle 0.8 mm diameter	pick & place of smallest components	outer diameter 0.8 mm				X		
●	0PL500A-S01.2	Nozzle 1.2 mm diameter	pick & place of very small components	outer diameter 1.2 mm				X		
●	0PL500A-S003	Nozzle 3 mm diameter	pick & place of small components	outer diameter 3.0 mm				X		
●	0PL500A-S004	Nozzle 4 mm diameter	pick & place of medium size components	outer diameter 4.0 mm				X		
●	0PL500A-S010	Nozzle 10 mm diameter	pick & place of large components	outer diameter 10 mm				X		
●	0IR5500-40	MicroPickup Type 0510	lifting of smallest components, rigid	outer diameter 1 mm, inner diameter 0.5 mm, brass	X	X	X			
●	0IR5500-41	MicroPickup Type 1020	lifting of small components, rigid	outer diameter 2 mm, inner diameter 1 mm, brass	X	X	X			
●	0IR5500-44	Suction adaptor small	adaptor for suction cups	for cups 2 and 3.5 mm, brass	X	X	X			
●	0IR5500-45	Suction adaptor	adaptor for small suction cups	for cups 5 and 8 mm, stainless steel	X	X	X			
●	0IR4520-01	Silicone suction cup 8 mm	lifting of large components, flexible	outer diameter 8 mm, silicone	X	X	X			3
●	0IR4520-02	Silicone suction cup 5 mm	lifting of medium size components, flexible	outer diameter 5 mm, silicone	X	X	X			3
●	0IR4520-03	Silicone suction cup 2 mm	lifting of very small components, flexible	outer diameter 2 mm, silicone	X	X	X			
●	0IR4520-04	Viton® suction cup 8 mm	lifting of large components, flexible	outer diameter 8 mm, Viton®, long life	X	X	X			
●	0IR4520-05	Viton® suction cup 5 mm	lifting of medium size components, flexible	outer diameter 5 mm, Viton®, long life	X	X	X			
●	0IR4520-06	Viton® suction cup 3.5 mm	lifting of small components, flexible	outer diameter 3.5 mm, Viton®, long life	X	X	X			

Viton® is a registered trademark of Dupont Dow Elastomes

Temperature Sensors

Highly Accurate & Flexible Temperature Measurement

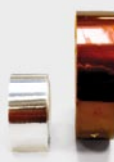|	Order Number	Name	Description	Technical Data	HR 100 A	IR 550 A	IR 650 A	PL 550 A	PL 650 A	Starter Kit
●	0IR6500-01	AccuTC sensor with fixture	thermocouple with metallic fixture	Ni-Cr-Ni sheathed thermocouple, diameter 0.5 mm	X	X	X			
	0IR6500-37	AccuTC sensor w/o fixture	thermocouple w/o metallic fixture	Ni-Cr-Ni sheathed thermocouple, diameter 0.5 mm	X	X	X			
●	0IR4510-02	Thermo couple wire K-type	temperature measurement	Ni-Cr-Ni wire, thermo-plug	X	X	X			
●	0DIG207	Thermo couple wire K-type	temperature measurement	Ni-Cr-Ni wire, thermo-plug, for solder station in IR 650/550		X	X			
●	0IR5500-35	TC holder Flexpoint	adjustable holder for AccuTC	length 210 mm	X	X	X	X		
	0IR5500-36	Extension for Flexpoint holder	extension	length 210 mm	X	X	X	X		

Additional Equipment

Process Cooling & More

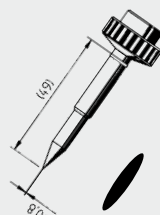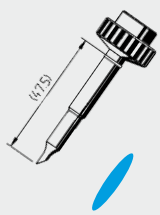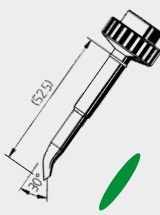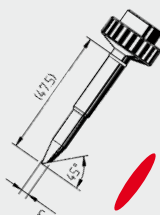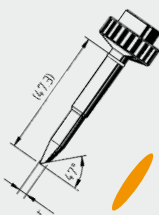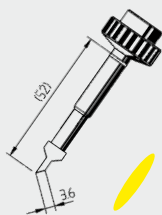|	Order Number	Name	Description	Technical Data	HR 100 A	IR 550 A	IR 650 A	PL 550 A	PL 650 A	Starter Kit
●	0IR5500-13	Cooling fan with deflector hood	cooling of PBCs after rework	air volume: 160 cbm/h	X	X				
	0IR5500-43	Deflector hood for Cooling fan	direct airflow to the side	aluminium	X	X				
●	0PL500A-SPC	Split Optic cassette	magnified view of component corners	for components with diagonal of 21 - 50 mm				X		
●	0PL6500-11	Split Optic for PL 650	magnified view of component corners	for components with diagonal of 15 - 55 mm					X	
	0PL6500-12	Centering station for PL 650	centering of components	to mount on PL 650					X	
●	0DTM050	Digital temperature measuring device	temperature measurement	for K-Typ thermocouples, battery driven	X	X	X			
●	0IR5500-33	ROBAX® glass plate for IR 550	glass plate cover for heating elements	ROBAX® glass plate		X				

Consumable Items

Flux, Solder Wick, Heat Shields & More

	Order Number	Name	Description	Technical Data	HR 100 A	IR 550 A	IR 650 A	PL 550 A	PL 650 A	Starter Kit
🟡	010MM0250LF02	Solder wire; Sn96.5Ag3.0Cu0.5	Solder wire; Sn96.5Ag3.0Cu0.5	1 mm diameter, 250 grams		X	X			1
🟠	0WICK NC 2.2	No Clean Solder Wick	remove solder	width 2.2 mm, length 1.5 m		X	X			
🟠	0WICK NC 2.7	No Clean Solder Wick	remove solder	width 2.7 mm, length 1.5 m		X	X			1
🔴	4FMJF8001-PEN	Flux Pen, Interflux IF8001	flux & applicator	with fiberglass brush, refillable, 7 ml	X	X	X			
🔴	4FMJF6000-PEN	Flux Pen, Interflux IF6000	flux & applicator	with fiberglass brush, refillable, 7 ml	X	X	X			1
🔴	4FMJF8300-005	Flux Gel	flux for e.g. solderwell process	Dispensing cartridge & needle, 5 ml	X	X	X			1
🟢	0IR4500-40	Heat Shielding Tape	heat protection of adjacent components	width 25 mm, length 1 m, Aluminium	X	X	X			1
🟢	0IR4500-07	Capton Tape	heat resistant tape	width 25 mm, length 10 m	X	X	X			1
	0IR6500-46	PTFE-Glass-Cloth-Tape	heat resistant tape to improve IRS reading on reflective surfaces	width 40 mm, length 5 m	X	X	X	X	X	
🔵	0TR01/SB	Tip-Reactivator	reactivate tips	chemical paste, 15 g can		X	X			1
⚫	0FR200	Flux Cleaner	remove flux and clean PCB	Spray can with brush, 200 ml	X	X	X			1

A complete list of solder wires and solder wick can be found in the ERSA soldering tools catalogue and the related price list (see www.ersa.com).
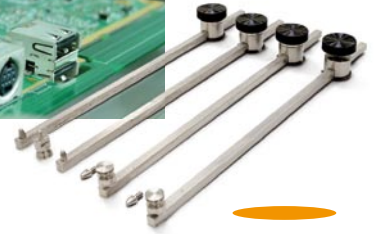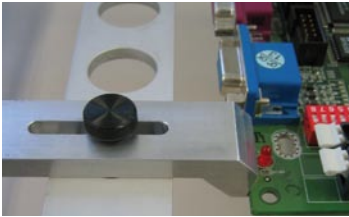
Solder Tips

Special Tips for Rework Applications

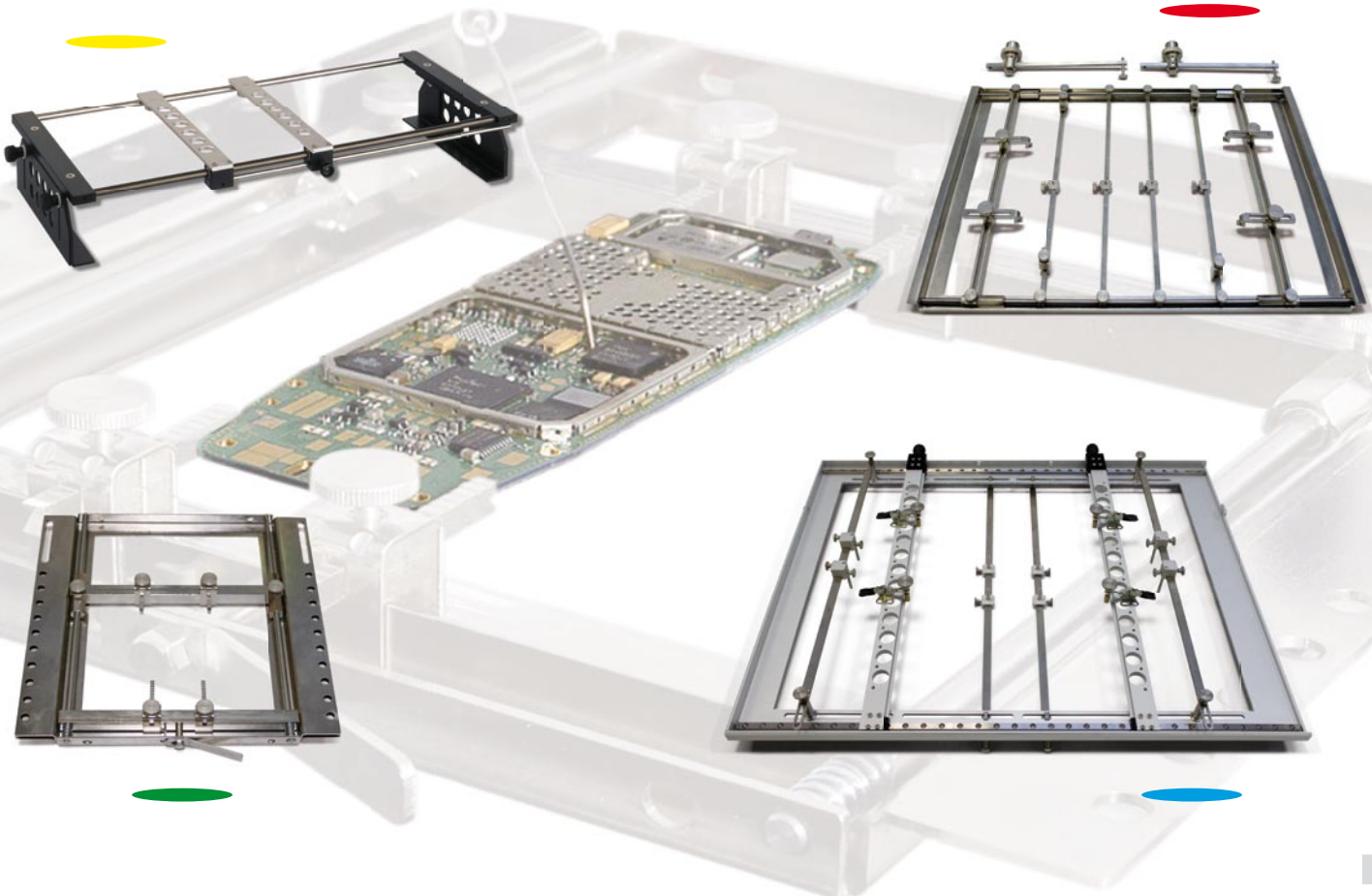|	Order Number	Name	Description	Technical Data	HR 100 A	IR 550 A	IR 650 A	PL 550 A	PL 650 A	Starter Kit
🟡	0612ZD/SB	Wick Tip	remove solder with wick	10.5 x 3.6 mm		X	X			1
🟠	0612WDLF/SB	Solder Tip, 4 mm, angle faced	remove solder	4 mm, 45°		X	X			1
🔴	0612ND/SB	Solder Tip, 3 mm angle faced	remove solder	3 mm, 45°		X	X			
🟢	0612HD/SB	Solder Tip, Solderwell	soldering QFP, solder well process, remove bridges	2.5 mm concave well		X	X			1
🔵	0612TW/SB	Solder Tip, Techwell	apply solder	3 mm, concave well		X	X			
🔵	0612MD/SB	Solder Tip, PLCC Blade	PLCC installation	1.5 mm		X	X			
⚫	0612UDLF/SB	Solder Tip, pencil point	fine SMD soldering	0.8 mm		X	X			1

A compete list of supplied soldering tips can be found in the ERSA soldering tools calalogue and the related price list (see www.ersa.com).
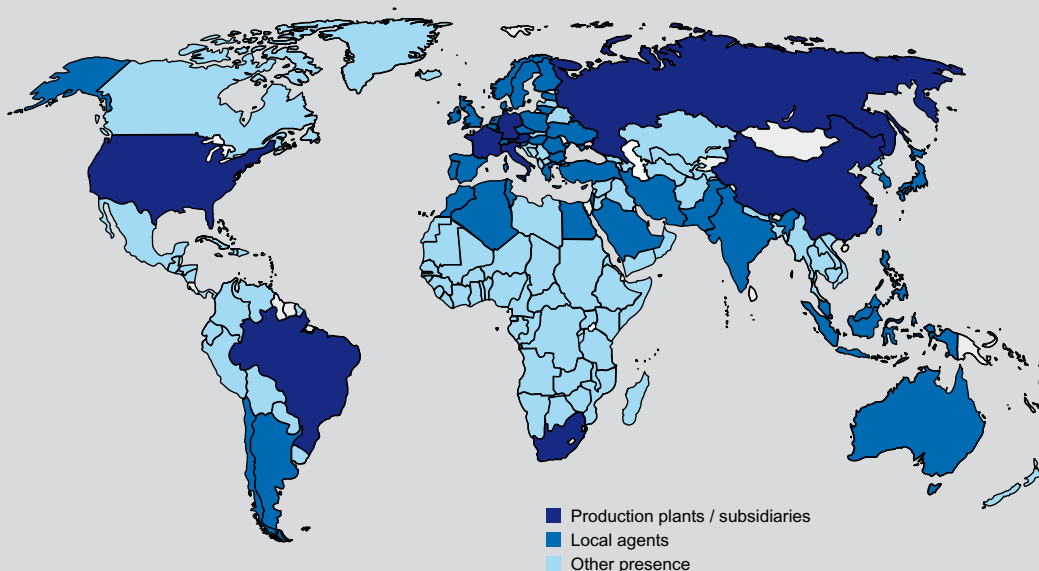
PCB Tables & Holders

Board Support Systems for Small, Large & Odd Shaped PCBs

	Order Number	Name	Description	Technical Data	*HR 100 A*	*IR 550 A*	*IR 650 A*	*PL 550 A*	*PL 650 A*	*Starter Kit*
🟡	0IR5500-01	PCB X-Y table	Fixture for PCBs or PCB holders	recommended PCB size 280 x 390 mm	X	X				
🟠	0PL500A-LP01	Support for PCB holder	Support & fixture to prevent PCB warpage	4 pcs, length 250 mm each, stainless steel	X	X		X		
🔴	0PH360	PCB holder	Fixture and support of medium size PCBs	recommended PCB size 270 x 365 mm		X	X	X	X	
🟢	0PH100	PCB holder	Fixture of small PCBs	recommended PCB size 170 x 170 mm	X	X	X	X	X	
🔵	0IR6500-16	PCB holder	Fixture and support of large PCBs	recommended PCB size 460 x 560 mm			X		X	
⚫	0IR6500-17	PCB holder set	Fixture of odd shaped PCBs	4 pcs, 30 mm adjustable length per clamp, aluminium	X	X	X	X	X	

The World is Kurtz – Present in 135 countries

- ■ Production plants / subsidiaries
- ■ Local agents
- ■ Other presence

Kurtz, ELECTRONICS

ERSA Production Equipment & Services

for Manufacturing & Repair of Electronic Assemblies

- Screen Printing
- Reflow Soldering
- Selective Soldering
- Wave Soldering

- Rework & Repair
- Hand Soldering Tools
- Optical Inspection
- Value Added Services

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