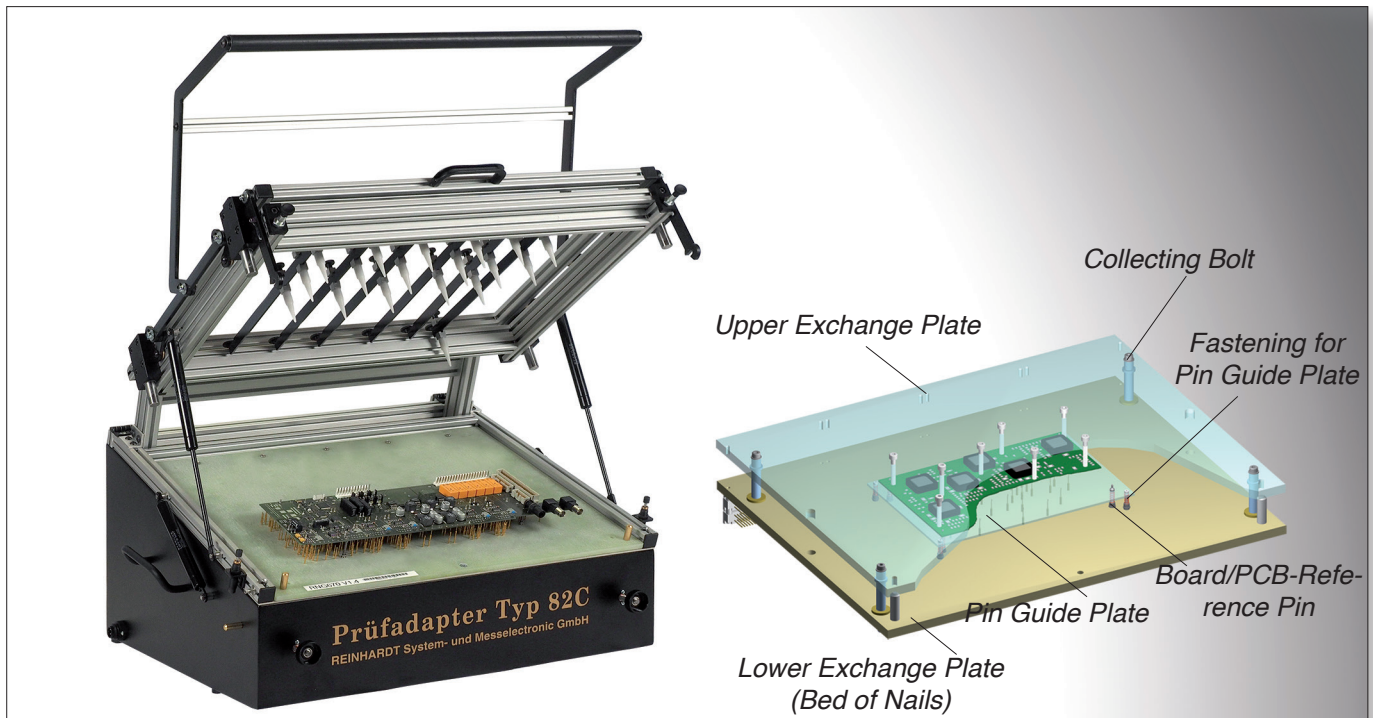


REINHARDT

System- und Messelectronic GmbH

Fixture Type 82 with 480 x 320 mm Working Area



We are the leading German manufacturer of In-circuit and Function test systems. In 1990 we started developing and producing test fixtures for testing electronic PCBs, modules and hybrids. Our fixtures are practice-oriented, cost-effective and easy-to-use. Up to date, more than 80,000 fixturings have been created with our fixtures which shows the reliability of our fixtures.

- Fixtures for In-circuit-, Function test and repair for more than 1,000 contact pins
- One-/double-sided contacting
- Guiding absolutely in parallel, parallel shift 25 mm
- Easy handling of the PCB
- Closed manually with little effort

- Cost-effective exchange plates
- Use of probes for SMT solder defect test and polarity test of capacitors from top and bottom
- Lower side of the fixture is accessible for preparatory measuring tasks
- Preparations for a new task in typically < 1 minute
- Ergonomic for right- as well as lefthanders
- Durable by robust construction with ball bearings

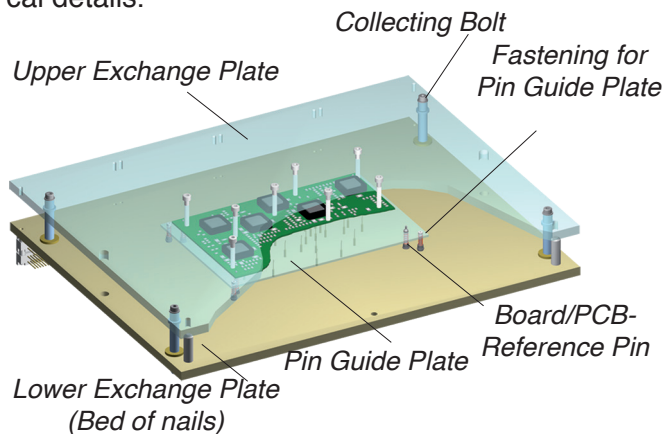
Applications:

Contacting via spring contact pins for In-circuit test, function test and repairs, wiring test, for programming e.g. Boundary Scan test, EEPROMs and Flash RAMs and final system test.

What all our fixtures have in common

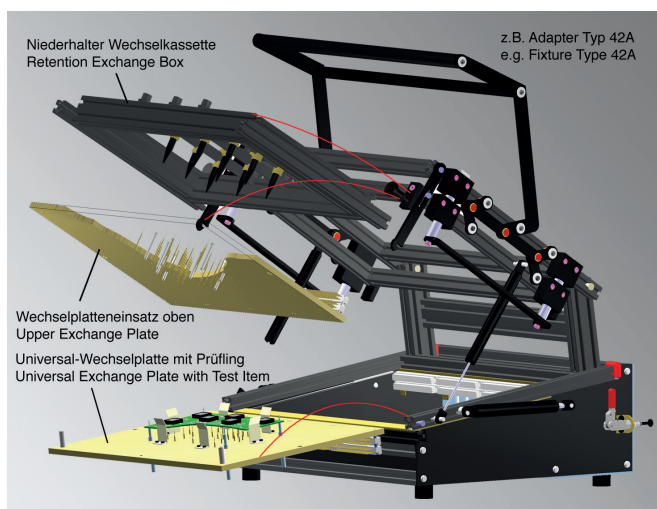
Exchange Plate:

Our exchange plates (bed of nails) are drawers. The basic fixture is connected to the exchange plate by plugging a number of 64-/96-way multi-way connectors once. This is why the times for changing component types are very short (typically 1 minute). Please see the last page of this brochure for technical details.



Working method of the Fixtures

The lower exchange plate (bed of nails) is fixed with our fixtures. After the upper part with the retention box is turned down, the retention box clicks into place and is then lowered from above – absolutely in parallel with a few hundredth millimeters accuracy at each of the four sides and without any tilting (There are four linear guidings with sliding bearings which do not require maintenance). With its retention pins, the retention box or the upper exchange plate



holds down the test item and presses it to the lower exchange plate (bed of nails) with the spring contact pins. As the front lever is wide and ergonomic, both left-handers and right-handers can use the fixture without problems. Operation forces have been distributed so that over 90% of the operational distance you only apply less than 1 kg force.

Retention Box:

The basic version of a fixture comes with an exchangeable box with retention pins that can be adjusted as necessary. With knurled head screws, both the retention pins and the receiver rails of the retention box can be adjusted as required by the resp. item to be tested. You therefore only buy the box once. For SMT-solder defect or polarity test or for contacting from top and bottom, you can change the box for an optional upper exchange plate.

Interface to the Test System:

On the rear of the fixture housing, there is the REINHARDT-interface with 64- or 96-way interchange connectors which are mounted floatingly.

Housing:

The housings of the REINHARDT-fixtures are metal housings and provide an interface where you can plug in different multi-way connectors of the DIN 41612 series. I. e. you can use high-voltage connectors or connectors with high-current contacts or HF-contacts.

The REINHARDT-fixtures Type 40, Type 42 and Type 82 offer a big advantage for preparatory measurements for new test programs: Since again and again you have to measure signals at the single pins, the fixture, be it pneumatic or manual, can be opened although the upper part is closed for contacting the test item so that you can reach the pin connection for measurement tasks.

Type 127 Manual Fixture

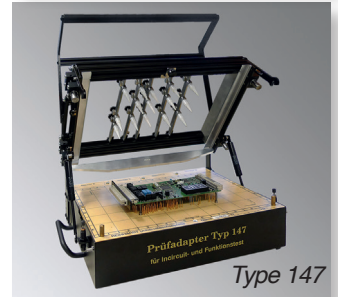
This fixture with 4 linear guidings has a horizontal working area. It is also particularly suitable for use with an ATS-UKMFT 727/627/616. The fixture comes with a lower exchange plate and a retention box and 2 64-/96-way interchange connectors. Working area: 191.5x172 mm, max. 500 contact pins



Type 127

Type 147 Manual Fixture

This fixture with 4 linear guidings has a horizontal working area. It is also particularly suitable for use with an ATS-UKMFT 727/627/616. The fixture comes with a lower exchange plate and a retention box and four 64-/96-way interchange connectors. Working area: 360x230 mm, max. 800 contact pins



Type 147

Type 42A V2.0 Manual Retention Fixture

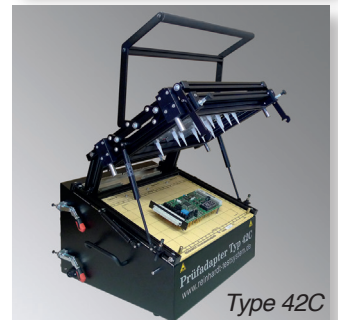
Fixture Type 42A comes with a sloping working area and is particularly suitable for use with an ATS-KMFT/ATS-MFT 770. It comes with a lower exchange plate and a retention box and four (max. 16) 64-/96-way interchange connectors. Working area: 360x230 mm, max. 1,000 contact pins



Type 42A

Type 42C Manual Fixture

Fixture Type 42C comes with a sloping working area and is designed for use with an ATS-KMFT 670/ATS-MFT 770 with expansion rack. The fixture has 4 linear guidings. It comes with a lower exchange plate and a retention box and 1 (max. 36) 64- and 7 96-way interchange connectors. Working area: 360x230 mm, max. 1,000 contact pins



Type 42C

Type 82B V2.0 Manual Fixture

Fixture Type 82B has got 480x320 mm working area. A lot of space is available inside. This fixture comes with 4 linear guidings, a lower exchange plate, a retention box and and two 64- and three 96-way interchange connectors (max. 16) and one SR18VG-interface. Working area: 480x320 mm, max. 1,000 contact pins.



Type 82B

Type 82C V2.0 Manual Fixture

With 480x320 mm working area fixture Type 82C is between fixtures Type 42A and Type 52 and is designed for an ATS-MFT 770/ATS-KMFT 670/ATS-SMFT 680 with expansion rack. This fixture comes with 4 linear guidings, a lower exchange plate, a retention box and and two 64- and three 96-way interchange connectors (max. 16). Working area: 480x320 mm, max. 1,000 contact pins.



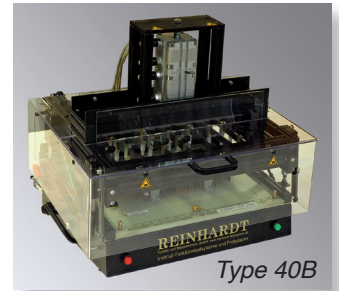
Type 82C

Type 40A Pneumatic Fixture

This fixture with two-hand operation (4 keys – security) and 4 linear guidings is closed manually, but a pneumatic cylinder supplies the pressure force for up to 1,000 contact pins. There are two levels for a combined in-circuit- and function test. For access from below the complete retention device can be opened.

Shift: In-circuit test: 20 mm, Function test 13 mm

Compressed air, not lubricated, 6 bar, 5 Mikron



Tandem Module

Tandem module 627/127 is a twin fixture box for contacting 2 fixtures Type 127 on one REINHARDT-test system. The module is designed for mutual contacting for higher throughput. A connection kit for two fixtures Type 127 is included.

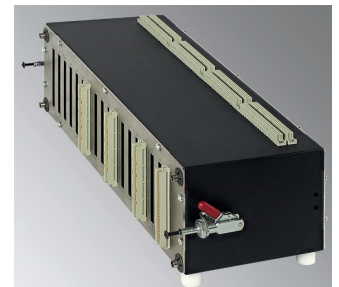
Depth about 165 mm, width about 600 mm



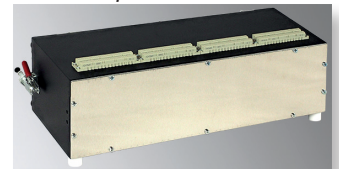
Universal Interface Box 165

The universal interface box 165 comes with a REINHARDT-test system interface SR18VG or SR08VG on one side and with an empty plate on the opposite side where the customer can mount special connections/connectors. Inside the box the ranging from the test system connectors is wired to the special connections/connectors. This avoids a confusing jumble of cables and connectors and resulting operating errors. Another version of the interface box (Converter and ranging box 165) allows to convert the interfaces of other producers of test systems to REINHARDT-test systems.

for ATS-KMFT, ATS-MFT 770 and ATS-UKMFT /727627/616

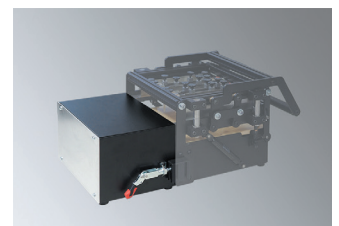


Universal interface box 165 – similar to picture



Dockingbox ADA127

The ADA127 Dockingbox has an interface with 8 female connectors (96-pole) on one side; on the opposite side there is a blank pane where the customer can mount his own connectors. There are two mounted grips for push rod for easily contacting fixtures Type 127 or Type 147. Dimensions: Depth housing ca. 165 mm, width ca. 230 mm (without grips for push rod), height ca. 145 mm



Dockingbox 627/127 (without test fixture)

Test Fixture Production System

Since 1991 REINHARDT have been developing and selling a system for building fixtures. This system enables you to build your fixture with bed of nails within a few hours. The optional software for processing Gerber files helps you calculate all drilling coordinates and graphical fault location data in less than half an hour. Within a few hours, you drill the exchange plates and place the contact pins automatically so that you must only wire them.

The test fixture production system is built into a cabinet (80 cm high, 80 cm wide and 100 cm deep) and is made up of the drilling machine combined with placing unit, the frame for the standard REINHARDT-fixtures, the magazine for the test contact pins and the complete control unit. Any PC with serial interface (RS232) can be used as control computer (A PC does not come with the unit).

The AAE-CNC 2 Test Fixture Production System drills the exchange plate with high precision and places the contact pins. The contact pins are pressed in with high precision. Different kinds of probes (100 mil crowns, 100 mil tips and 75 mil tips) are picked from a magazine with a total of 625 pieces. With our device you do not have to spend hours on straightening the contact pins. We have found that in typically two to three hours, the fixture is drilled, the contact probes are placed and in another two to three hours, you have wired them.

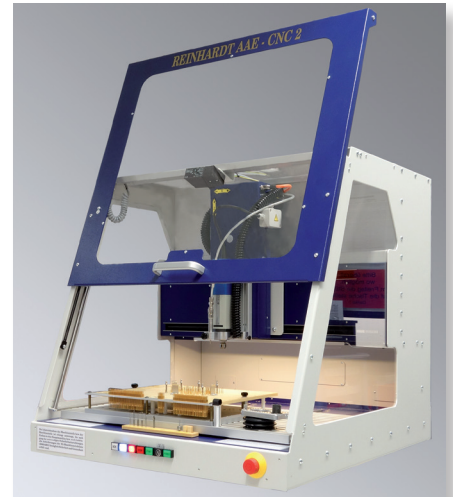
Accessories for the Test Fixtures

What is the highly precise parallel retention unit provided by REINHARDT-test fixtures, if the device under test (PCB) is not guided exactly? Therefore we provide practice-oriented accessories:

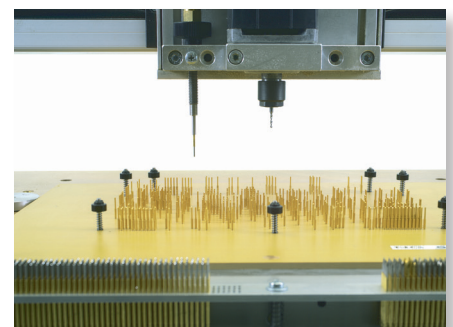
Time and again boards which do not provide enough centring or reference drillings. In order to solve this difficulty in guiding, we have developed a spring-suspended guiding edge for 90°-edges.

PCBs are best centred via centring/reference drillings. For that you can also use mounting holes which may already exist. For centring we have developed two universal spring-suspended reference pins for centring drillings from 1.7 to 4.7 mm and from 4.4 mm to 7.7 mm. The spring travel can be set in two levels.

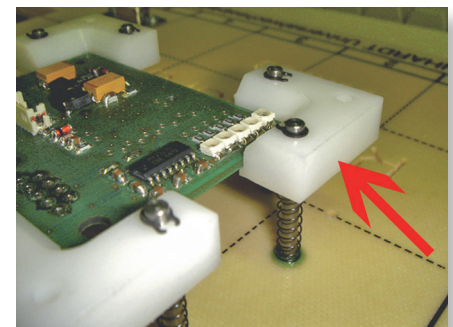
You will find more details on our wide range of fixturing accessories in our brochure "Accessories and Spare Parts for REINHARDT-Test Fixtures" and on our homepage.



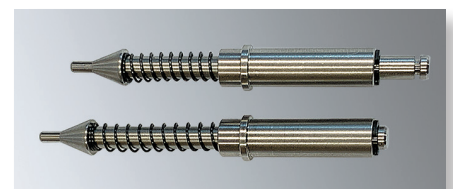
AAE-CNC 2 Test Fixture Production System



Placing the contact pins with AAE-CNC 2










Guiding edge



Reference pin 3

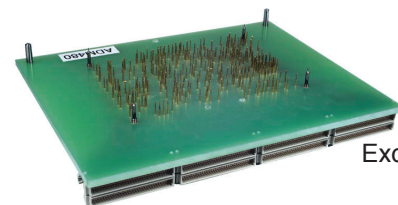
IE & OE – Specifications subject to change without prior notice! 8/2023

Fixture-Type	Type 40A	Type 42A V2.0	Type 42C	Type 82C V2.0	Type 82B V2.0	Type 127	Type 147
							
for Function Test for In-circuit Test	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
Contacting from Above and Below	✓	✓	✓	✓	✓	✓	✓
Work. Area in mm Width – Depth	360x230	360x230	360x230	480x320	480x320	191.5x172	360x230
Exchange Plates Dimensions in mm	380x297	380x297	380x297	500x400	500x400	217.6x230	380x297
Contact Pins	1000	1000	1000	1000**	1000**	500	800
Operation Force manual Ø in kg	0kg	2.0kg	2.0kg	2.0kg	2.0kg	1.9kg	1.9kg
Interface Basic Allocation	4x64 total 256	4x64 total 256	1x64, 7x96 total 736	2x64, 3x96 total 416	2x64, 3x96 total 416	2x64 total 128	4x64 total 256
Interface max. Contacts	SR18VG 1152 (1728*)	SR18VG 1152 (1728*)	SR18VG 1152 (3456*)	SR18VG 1152 (3456*)	SR18VG 1152 (3456*)	SR08VG 512 (768*)	SR08VG 512 (768*)
Exchange Plate Interface Basic Allocation	4x64 total 256	4x64 total 256	4x64 total 256	4x64 total 256	4x64 total 256	2x64 total 128	4x64 total 256
Exchange Plate Interface max. Contacts	16x64/96 total 1536	16x64/96 total 1536	16x64/96 total 1536	16x64/96 total 1536	16x64/96 total 1536	8x64/96 total 768	8x64/96 total 768
Opening and Access when Contacted	✓	✓	✓	✓	✓	–	–
SMT Solder Defect + Polarity Probe	✓/ both sides	✓/ both sides	✓/ both sides	✓/ both sides	✓/ both sides	✓/ both sides	✓/ both sides
Retention Pins/ Arms	15 5	15 5	15 5	18 6	18 6	12 4	15 5
Retention Exchange Box	✓	✓	✓	✓	✓	✓	✓
2Level Fixturing Pneu- matic	✓ 6bar	Option manual	Option manual	–	–	–	–
Manual Operation	left/right	left/right	left/right	left/right	left/right	left/right	left/right
***Comp. Height cont. one side cont. both sides	45 mm 15 mm	45 mm 15 mm	45 mm 15 mm	45 mm 15 mm	45 mm 15 mm	45 mm 15 mm	45 mm 15 mm
Total Dimensions width, depth, height	50x47.5x46 cm	51x51x29 cm	51x54x29 cm	65x64x46 cm	65x64x34 cm	28x33x 23 cm	44x42x23 cm
Weight ca.	21 kg	16kg	20 kg	25 kg	25 kg	9kg	12kg

* SR8VG and SR18VG are test system-interfaces for REINHARDT-test systems if 96-way connectors are used

** with "Fixture/exchange plate brace 453".

*** can be increased by milling grooves



Exchange plate interface