## Test Applications

### Car radio / amplifiers
- Full automatic high speed in-line and off-line Test and Alignment system
- Prepared for modules and sets
- Interchangeable pneumatic adapter
- Full analog & digital RF signal supply
- Full RF measurement e.g.; DAB, GPS, RDS, SDARS

### Fuse box
- Electrical loads
- CAN communication
- Check fuse presence and type
- Programming
- Switching with smart switches
- Traceability

### RF Tire pressure
- Measurement at 400 rpm and 3 bar
- RF shielded functional test
- Product label assembly
- In-line or off-line manufacturing cell

### Car key
- Turntable for parallel manufacturing processes (vision, test, label, operator)
- Cage of Faraday for RF signals
- Interchangeable adapter
- Exchangeable keypad unit
- Button functions and key position check
- Vision test

### LCD TV / Video
- HDTV & SDTV standards including HDMI, DVI
- LVDS Pixels measurement (LCD or plasma)
- Audio (Speakers, headphones, SCART)
- Antenna RF Analogue and Digital (DVBT)
- USB & Ethernet functional test
- Digital audio test (SPDIF)

### Settop Box/Satellite receivers
- Manual and in-line solutions
- Measurements on SCART, CVBS, RGB, Audio, FB
- Modulation output, LNB voltage
- Exchangeable inserts, fixtures
- PCB and EOL test solutions
- USB, HDMI, Modem, IP

### GSM / Dect / Bluetooth
- RF shielded box, GSM and bluetooth antenna
- Manual or semi automatic test of RF products
- Vision check display, keypad, LED
- Acoustic test
- Communication interface link, programming
- Button check

### Power Supply
- Electronic loads
- High current power supplies
- Battery simulation
- Heavy duty switching
- Multi Channel

### Display / Keypad test
- LED, LCD, TFT, OLED
- Color test
- Contrast, uniformity, brightness
- Pattern, pixel, flicker measurements
- Haptic (tactile) Test (X, Y, Z, phi)
- Buttons and turnknobs
## Test Applications

### LED
- LED position
- LED intensity
- LED color
- Camera systems
- Fibes optic systems
- IPTE matrix software

### Flash Programming
- Automatic in-line test and programming
- Multiple DUT & different fixtures
- SPI, JTAG, Serial, I²C, CAN
- Different chipsets
- Adapted flashing
- Automated software integration

### Electronic Control Units
- In-line / off-line solutions
- Hot test up to 125°C/ambient tests integrated
- CAN communication
- Programming, I/O
- Current tests
- Loads

### Cluster
- Cluster digital/analogue I/O functional test
- CAN, J1850, LIN, K-line, UART based, ISO 9141
- Application independent camera
- Automatic pointer and inputs calibration
- Display (LCD, LED) and symbol inspection

### Piezo-electric Transducer
- Thickness measurement
- Capacity measurement
- Polarizing and polarity marking
- Length and expansion measurement
- Classification and sorting

### Run-in / Burn-in / Climate
- Voltage / Current measurements
- Audio measurements
- Video measurements
- Power
- I/O
- Programming firmware

### Contactors
- Pull-in, holding, and drop-away voltage
- Path-time measurement
- Acoustic measurement for AC contactors
- Distance measurement
- DUT supply 0 - 600 V

### Gyro Test
- X, Y gyro test (optional Z)
- Functional test
- In-/off-line operation or turntable
- Orientation
- Rotation speed
- Accelleration

### ABS Modules
- 10 msec real-time slots
- DUT supply 0 to 10 bar, 10 mbar steps
- 2 mbar pressure measurement accuracy
- 0.1 mbar delta pressure measurements

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Form Factors

Manual

- Table top form factor
- Manual operation
- Single / dual well version
- Integrated equipment
- Exchangeable needle / pusher plate

Rack

- 19” rack system
- Docking, interface in option
- Cable tree to handler / fixture

TurnTable

- Operator / robot operated
- Loading / unloading positions
- Functional test position
- Vision check / marking positions
- Product specific carriers

Inline

- In-line fast exchange board handler
- Single / dual lane
- Press forces 5 - 15 kN
- Exchangeable test fixture
- Other versions available