RF Technology
Hardware and Software Solutions made in Germany

- RF Signal Generators
- RF Receivers & Signal Collection Systems
- Radio Direction Finders
- RF Record, Playback & Analysis
- Channel Emulators
- Digital Broadcasting
RF Signal Generators

**IZT S1000/IZT S1010**

**Multi-Channel Signal Generators**

- One device – 31 Virtual Signal Generators of highest RF quality
- Two RF outputs for phase-synchronous diversity and MIMO testing
- For I/Q data, Sirius, XM, HD Radio, AM, FM
- Modulators for Digital Radio and TV Standards
- GNSS Constellation Simulator
- Automated testing for development and production
- Versatile real-time impairment simulation
- 50 MSamples/sec real-time streaming

**FIGURE 1: IZT S1000 / IZT S1010 SIGNAL GENERATORS**

**IZT S5000**

**Real-time RF Environment Simulation System**

- Test and validation of COMINT and DF systems
- Operator training
- Simulating time variant, complex and realistic RF signals
- Multiple and accurately synchronized RF test signals

**FIGURE 2: IZT S5000**

**IZT T1000**

**Compact Broadcast Modulator**

- Modulator platform for DAB and DVB-T/DVB-T2
- Seamless switching between any combination of inputs
- User-friendly intuitive web GUI
- Optional integrated GNSS receiver for synchronization

**FIGURE 3: IZT T1000**
RF Receivers & Signal Collection Systems

**IZT R3000/IZT R3200, IZT R3301/IZT R3302, IZT R3410/IZT R3411**

**Receivers**
- Excellent RF performance
- Frequency range 9 kHz – 3 GHz (6 GHz/18 GHz)
- Real-time bandwidth up to 25 MHz
- Multichannel operation
- Fully remote controllable
- Radio monitoring of broadcast stations
- ITU-R spectrum monitoring measurements
- Jammer location finding
- Spectrum allocation analysis
- Search, intercept and emitter location
- Threat recognition
- Offline processing and technical analysis

**IZT R4000, IZT R4010**

**Digital Wideband Receivers**
- Signal collection and recording system
- Superior signal quality
- Continuous interception of up to 120 MHz bandwidth
- Real-time signal analyzer
- Spectrum Monitoring

**IZT R5010**

**Digital Wideband Receivers**
- Highest signal quality in the frequency range up to 18 GHz
- Up to 120 MHz instantaneous bandwidth
- Six independent digital downconverters
- Up to 64 narrow-band DDCs
- Real-time spectrum calculation
- Large internal buffer memory
Radio Direction Finders

IZT R3600

Multichannel Receiver System

- Frequency range 9 kHz – 3 GHz / 6 GHz
- Scalable multi-channel receiver system
- Up to 5 channels with 24 MHz instantaneous bandwidth each
- Suitable for direction finding (DF)
- For fixed and mobile systems

FIGURE 7: IZT R3600

IZT R5506/IZT R5509

Radio Direction Finder

- Complete RDF solutions
- Platform for individual software
- Compact IZT R5506 with 20 MHz – 6 GHz
- High-precision IZT R5509 with 100 MHz – 500 MHz

FIGURE 8: IZT R5509 BUILT IN ANTENNA

FIGURE 9: IZT R5506 HARDWARE
RF Record, Playback & Analysis

IZT RECPLAY

RF Recording and Playback Systems

- Real RF environment reproduction
- Multi-channel diversity
- Powerful signal extraction
- Real-time impairment simulation
- Repeatable lab tests
- Reduced costs for field-testing
- Automotive applications
- 25 MHz, 60 MHz or 120 MHz real-time bandwidth

FIGURE 10: IZT RECPLAY

IZT SIGNAL SUITE

Software for Signal Analysis

- Automated signal detection
- Analysis and decoding of signals
- Modulation Recognition
- Powerful I/Q post-processing
- Spectrum monitoring and interferer capture

FIGURE 11: DATA PROCESSOR
Channel Emulators

IZT C3040

Satellite Link Emulator
- Input and output frequency up to 3 GHz
- Instantaneous bandwidth of 100 MHz
- Simulation of uplink, payload and downlink

![IZT C3040 satellite link emulator](figure12.png)

IZT C5040, IZT C6000

Broadband Satellite Link Emulator
- Bi-directional wideband solutions for up to 600 MHz bandwidth
- Simulation of complete satellite links including payload, uplink and downlink effects
- Simulation of complex mesh networks
- Real-time change of parameter
- Flexible and scalable architecture

![IZT C6000 broadband satellite link emulator](figure13.png)

IZT C7000

Over the Air Research and Testing – OTA
- Signal distribution via IP and optical LAN
- 4G and 5G User Equipment Testing
- MANET Testing
- GNSS Testing
- Wireless cable Testing in non-anechoic and anechoic environments
- Real-Time streaming of channel parameters
- Multi-Frequency Operation
- Up to 80 MHz instantaneous bandwidth
- Extreme low RF to RF latency
- Fully coherent and phase-stable
- Highest signal quality in the frequency range up to 6 GHz
- Scalable number of channels

![IZT OTA over the air research and testing](figure14.png)
Digital Broadcasting

IZT DAB/DRM CONTENTSERVER

Digital Radio Multiplexer System
- Multiplexing for DAB / DAB+ or DRM
- Real-time audio encoding
- Data service management

**FIGURE 15: IZT DAB CS**

IZT DAB ARCHIVE

EDI/ETI Monitoring and Logging System
- Real-time monitoring of DAB ensembles
- Analysis of audio and data content
- Logging of the complete DAB multiplex
- Long-term archiving and indexing of all content
- Search and export functionality

**FIGURE 16: IZT DAB ARCHIVE**
RF Technology

Hardware and Software

Solutions made in Germany

About IZT The Innovationszentrum für Telekommunikationstechnik GmbH IZT specializes in the most advanced digital signal processing and field programmable gate array (FPGA) designs in combination with high frequency and microwave technology. The product portfolio includes equipment for signal generation, receivers for signal monitoring and recording, transmitters for digital broadcast, digital radio systems, and channel simulators. IZT offers powerful platforms and customized solutions for high signal bandwidth and real-time signal processing applications. The product and project business is managed from the principal office located in Erlangen/Germany. IZT distributes its products worldwide together with its international strategic partners. The IZT quality management system is ISO 9001:2015 certified.

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