



Announcing

ICE-T

*Integrated Cryogenic
Electronics Test-bed*

FROM HYPRES



ICE-T ... outstanding benefits

- Easy and efficient to load
- No need for a cryogenic expert
- Test more chips in less time
- Cryogen-free
- Customizable
- Testing can go from 4K on up and 49K
- Test complex circuits

Applications

- High-speed superconducting electronics chips for supercomputing applications
- Process control monitors and digital diagnostics
- High-performance cryogenic analog-to-digital converters for RF receivers
- Analog low-noise measurements for SQUIDS and SQIFs
- Cryogenic semiconductor devices



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Quick, Convenient and Cryogen-free





Testing your low-temperature electronics is hard. ICE-T makes it easy.

From cryogenic semiconductor devices used in radio astronomy and deep-space communication to digital superconductor ICs powering the fastest analog-to-digital converters on the planet, the outstanding performance capabilities of low-temperature electronics are opening the doors to new discoveries and achievements.

For those working in this area of cold electronics, however, a challenge has remained. How to efficiently and effectively test these circuits and devices in a cryogen-free environment?

HYPRES has solved this challenge with the unveiling of ICE-T. An Integrated Cryogenic Electronics Test-bed, it is designed for rapid and convenient testing of low-temperature electronics. It can be configured to provide the entire cryocooled infrastructure required to test a wide variety of devices and ICs—from cryogenic semiconductor devices to superconductor ICs, multi-chip modules, and any other device that functions in a cryogenic environment.

Place your ICs in the probe, insert the probe into ICE-T, lock it down, turn the knob ... and start testing.

Test more chips in less time!

Innovative in design, ICE-T accommodates two interchangeable Electrical Inserts with a standard vacuum flange. The user-specified Electrical Inserts range from standard to fully customized and are easy and efficient to load.

Configuration options

- Universal high-speed 40-line insert for 5mmx5mm superconductor ICs
- Universal high-speed 80-line insert for 10mmx10mm superconductor ICs
- Universal low-speed 120-line device/PCM diagnostic insert for three 5mmx5mm superconductor ICs
- Custom inserts (e.g. superconductor MCM, semiconductor devices)



Optional accessories

- 17-channel digital amplifier unit
- Input current source
- FPGA/logic analyzer output interface board
- External integrated clock source
- Integrated monitor amplifier box

The thermal infrastructure is all set — it's ready when you are.

ICE-T is completely cryogen-free and requires a 3-phase power supply. The versatile, modular design allows inserts to function similar to liquid helium immersion cryoprobes, but without the associated high cost of liquid helium.

ICE-T can pay for itself in helium savings alone in fewer than 2 years.

General specification

- ICE-T rack dimension: 22.5" wide, 33" deep, 56" high
- ICE-T rack weight: 415 lbs.
- ICE-T compressor weight: 225 lbs.
- Operating temperature: +5 °C to +35 °C

