

ISCO INTERNATIONAL

Dynamic Spectrum Recovery

Comprehensive Interference Cancellation Solution



ISCO International's mission is to deliver solutions to its customers to identify and cancel all types of interference, resulting in more usable spectrum to carry traffic, improved network performance, and a better subscriber experience. With Dynamic Spectrum Recovery (DSR), ISCO now cancels non-cellular narrow and wideband interference.

The Value of DSR

Interference ruins network performance and robs capacity. ISCO's DSR cancels all types of non-cellular narrow and wideband interference

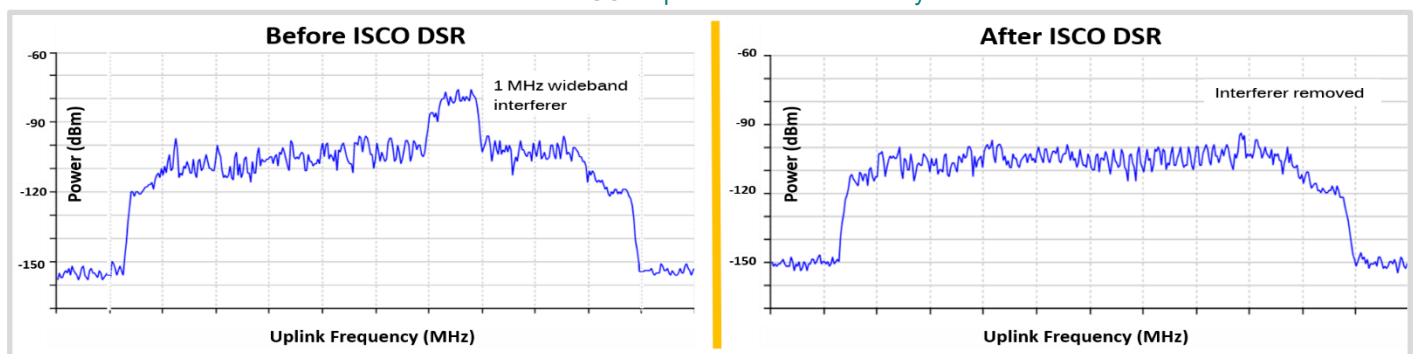
Dynamic Spectrum Recovery is a new software network function for ISCO's ProteusCPRI™ x86 conditioning server platform. DSR uses patented AI (Artificial Intelligence) technology to automatically identify then cancel non-cellular interferers and co-channel transmissions from other Mobile Network Operators (MNOs) that corrupt the wireless carrier's uplink. Harmful co-channel wideband interference can be experienced along border regions from other regional Mobile Network Operators, from TV broadcast signals, repeaters or from digital signage and electronic devices.

Common Types of Interference

- TV station transmissions
- Neighboring MNO transmissions
- Power supplies
- Repeaters/Bi-directional amplifiers
- Electric motors
- Digital signage

DSR IN ACTION: Uplink signal before and after ISCO Dynamic Spectrum Recovery

shown with ISCO's Spectrum Monitor visibility tool



Key Benefits of DSR

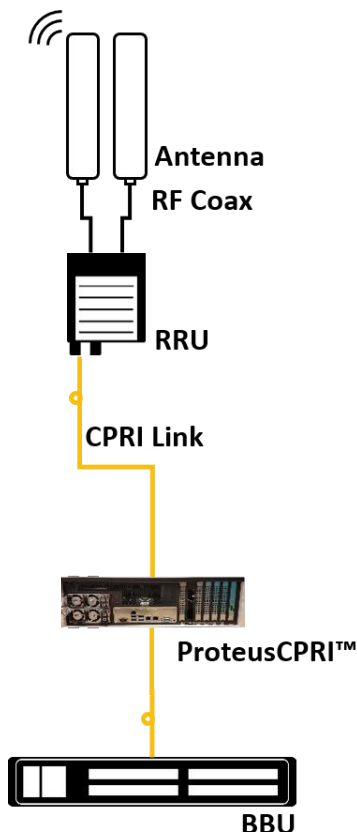
- **Increases capacity and improves network performance automatically**
Carry more traffic, improve data rates, and increase cell coverage by cancelling interferers.
- **Reduces cost to deliver service**
With recovered usable spectrum, more users can access the network and more traffic can be carried.
- **Plug & Play simplicity**
ISCO conditioning solutions are easy to install and need only connect to the uplink paths. The AI algorithms automatically adapt and are self-learning.
- **Flexible format**
Modular hardware design supports future growth.

How it works

When DSR is deployed on an MNO's sector, the benefit is automatic and immediate. The interferers are identified by the patented ISCO algorithm, DSR is applied and the interference is cancelled. Service levels are immediately restored. While it is ideal to manually track down and eliminate the interferer, that process is typically time consuming and sometimes it is not possible to eliminate the interferers when located. ISCO's DSR can quickly be deployed on a temporary or permanent basis. In either case the benefit of interference-free spectrum is the immediate improvement in capacity and subscriber experience.

Dynamic Spectrum Recovery is a software network function that runs on ISCO's ProteusCPRI. The ProteusCPRI server integrates on the CPRI link between the BBU and the RRU.

Typical ProteusCPRI Integration



ProteusCPRI

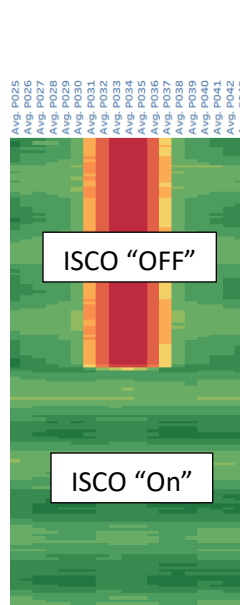
3U design, easy to connect; all connections on the front, fits easily into a standard telco rack and outdoor cabinet, uses ISCO's patented "blind" cancellation technology requiring no connection to transmit signals



ISO 9001:2015 Registered

We Care About The Connection™

Data from Actual Field Results



DSR Returned Site to Normal

High levels of wideband interference from digital TV caused continuous harm across multiple PRBs. Power levels above -85 dB were impacting KPIs.

ISCO's Dynamic Spectrum Recovery removed the interference and improved KPIs, increasing the number of users, accessibility and retainability while allowing the site to perform at higher percentages of Uplink QPSK and 16QAM.

DSR cancels interference without notching the signal, ensuring maximum capacity remains available for users.