CSIR Pro Plus

CSIR is a real-time application for the communications signal interference removal and noise reduction, separation, monitoring and analysis and the geolocation of satellite signal emitters.

Available Models:

CSIR PRO+ HF-RM: Rack Mount
Single Channel HF CSIR Appliance

CSIR PRO+ UHF-RM: Rack Mount
Single Channel UHF CSIR Appliance

CSIR PRO+ L-RM : Rack Mount
MULTICHANNEL
4-Channel L-Band CSIR Appliance

COMMUNICATION SIGNAL INTERFERENCE REMOVAL

Communication Signal Interference Removal (CSIR™) is a real-time waveform resiliency technology that redefines the extent to which active, noise-inducing interferers and jammers can be isolated and removed from a communications signal. CSIR is designed to effectively mitigate a wide range of interferers from CW to Multiple Strong Interferers, without requiring any prior information on those interferers.

The CSIR technology can be inserted into any receive chain and mitigate unknown interference on existing waveforms without sacrificing spectral efficiency. CSIR protects any digitally RF communications channel and has been implemented across several SATCOM waveforms, HF Radio, UHF SATCOM, and GPS. CSIR can protect waveforms that have linear modulation techniques and leverages forward error correction (FEC).
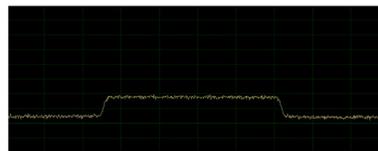
CSIR PRO PLUS

CSIR PRO PLUS is a 1RU appliance that is available in UHF, HF, and L-Band variants. CSIR Pro Plus is designed to excise interferences in real-time from a communication signal before the signal reaches the receiver. Thus, the demodulation part of the communication channel never "sees" the interference and as a result is never adversely affected. Applicable in stationary and mobile networks including maritime and airborne, users do not require any knowledge of the characteristics of the interference of the communications signal. The only required information is approximate knowledge of the user's carrier center frequency and symbol rate. With that minimal knowledge, CSIR will precisely measure these parameters and proceeds to remove the interference in real time.

Received signal with interference

CSIR

Interference Removed

Modem

CSIR Pro Plus
(SPECS)*

	CSIR PRO PLUS HF	CSIR PRO PLUS UHF	CSIR PRO PLUS MULTICHANNEL

SUPPORTED SIGNAL TYPES

Signal Type	HF Radio (BLOS)	Satcom Radio (UFO)	Satcom/SCPC/TDMA
Targeted Modulation Formats	MIL-STD-188-110A	S-BPSK/2FSK	DVB-S2(X), DSSS, LDPC, TPC
Interference Type Removed	CW/Comb/Filtered Noise/Modulated Carriers/Sweeping/Hopping		

RF CHARACTERISTICS

Number of CSIR Channels	1	1	4
Input Frequency Range	3-30MHz	240-270MHz	950-2400MHz
Output Frequency Range	3-30MHz	240-270MHz	950-2400MHz
Input Range	-113 to -30 dBm	-110 to -30 dBm	-5 dBM to -130 + 10*log (SymRate)
Reference Input Type	10MHz	10MHz	10MHz
Reference Input Range	0 to +10dBm	0 to +10dBm	0 to +10dBm
Operational Bandwidth	3kHz to 48kHz Channels	3kHz to 48kHz Channels	1kHz to 130MHz
Symbol Rates	2.4ksps to 38.4ksps	2.4ksps to 16ksps	1ksps to 128Msps
Insertion Loss	AGC Controlled Fixed-Level Output		

CONNECTIONS

Input Connector		N Female	SMA Female (4)
Output Connector		N Female	SMA Female (4)
Reference Connector	SMA Male		
Management Interface	10/100 Ethernet - RJ-45		
Troubleshooting Interface	Micro USB-B (serial console)		

POWER

Input Rating	110 VACAC to 240VACAC, 50Hz - 60Hz		
Power Consumption	4.5A, 450W	4.5A, 450W	4.5A, 450W

ENVIRONMENTAL

Storage Temperature	-40F to +185F (-400C to +85C)	
Operational Temperature	-40F to +140F (-400C to +60C)	
Humidity	95% non-condensing humidity	

PHYSICAL

Form Factor	1RU	
Dimensions	W 1.75 in x D 20.0 in x H 1.75 in (W 4.45 cm x D 50.80 cm x H 4.45 cm)	
Weight	12 lbs. (5.4 kg)	

CERTIFICATIONS/COMPLIANCE

N/A	Designed to MIL-STD 810H for vibration, shock, temperature, humidity and altitude, RoHS

WARRANTY

Initial Warranty	15-month standard limited warranty; Contact an authorized iDirectGov representative for full details

*Preliminary specifications. Subject to Change.