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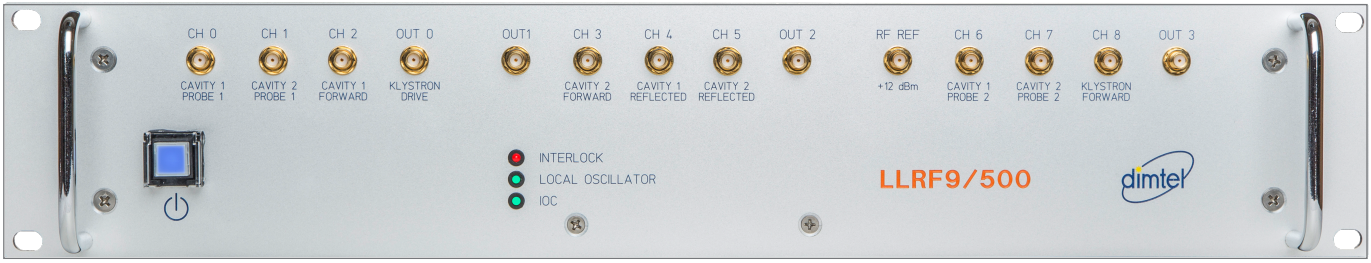
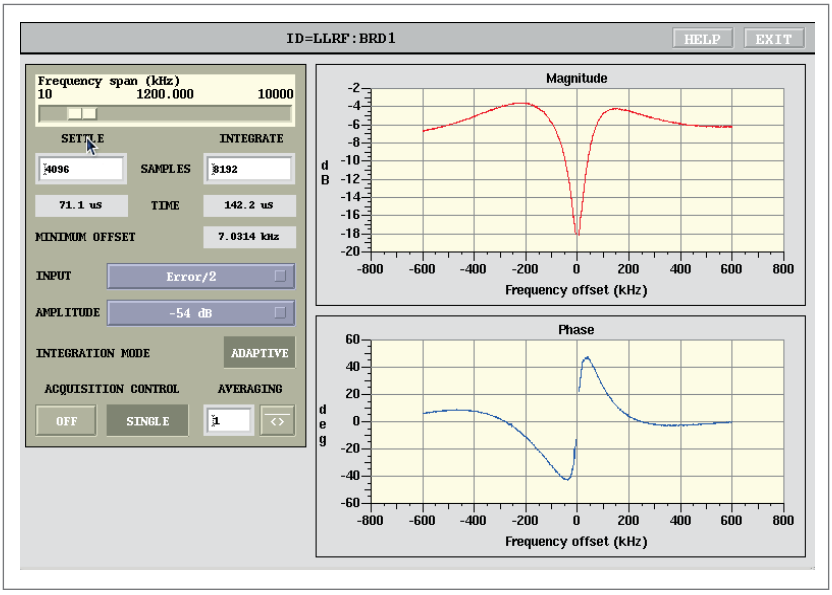
Low-Level RF Controller



Features

- RF control for storage rings and boosters
- Closed loop feedback stabilization of amplitude and phase
- Support for one or two cavity configurations
- Hardware-triggered arbitrary amplitude and phase profiles
- Internal temperature stabilization
- Nine highly stable input channels at 500 MHz
- Integrated tuner motor control supporting multiple tuners per cavity
- Built-in network/spectrum analyzer
- Fast waveform acquisition with pre-trigger capability
- Opto-isolated interlock daisy chain
- Two opto-isolated external triggers
- Integrated EPICS IOC
- Real-time tracking of the reference channel phase



RF Inputs

Parameter	Value
Number of channels	9
Center frequency	500 MHz
Bandwidth	6 MHz
Full-scale input level	+2 dBm
Readout	at 10 Hz

Setpoint Ramping

Parameter	Value
Trigger source	Int or ext
External trigger inputs	2
Ramp profile steps	512
Time per step	70 ns – 37 ms

Dimtel Products

LLRF9	A 9-channel low-level RF controller for storage rings and boosters
iGp12	Bunch-by-bunch signal processor, 2 ns minimum bunch spacing
iGp12H	Slice-by-slice feedback signal processor for proton accelerators
FBE-LT	Front/back end for a bunch-by-bunch feedback system, three front end channels, one back end
Actico	Active kick combiner
BPMH	BPM hybrid network, 20–2000 MHz, four BPM inputs converted to ΔX, ΔY, and Σ

Commissioned Dimtel Systems

Bunch-by-bunch feedback

ALS
ANKA
APS
Australian Synchrotron
BEPC-II
BESSY II
CLS
CesrTA
DAΦNE
DELTA
Duke SR-FEL
ELSA
HLS
Indus-2
LNLS UVX
MAX IV
MLS
NSLS-II
Photon Factory
Sirius
SPring-8
SPEAR3
SSRF
Super KEKB
TLS
TPS

Low-Level RF

ANKA
DELTA
ELSA
SESAME

Intra-bunch feedback

J-PARC

About Dimtel:

Dimtel is a provider of analog and digital signal processing solutions for particle accelerators. Our primary focus is on bunch-by-bunch feedback for storage rings, bunch-by-bunch diagnostics, and low-level RF. Turnkey solutions from Dimtel allow the accelerator physicists and engineers to get the systems up and running in hours rather than years. We also provide support for beam commissioning and control system integration of our products. Contact us: info@dimtel.com; +1 650 862 8147

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