EMPOWER RF SYSTEMS, INC.

Empower RF Systems Inc.

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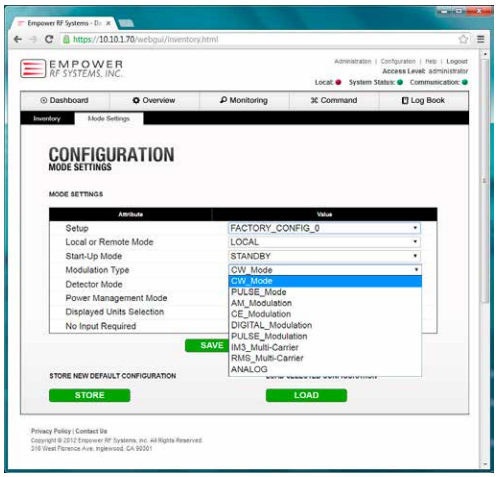
NEXTGEN SYSTEM MONITORING AND CONTROL (GUI)

Digitally Reconfigurable Amplifier System



Because we live in an increasingly complex digital waveform environment we designed in flexibility to provide you with a futureproof and digitally reconfigurable rack amplifier and since the System Engineer usually has to wrap external control and intelligence around the typical amplifier we opted to design in hardware and software to shorten system integration time and reduce cost by providing features that would otherwise burden your engineering staff with building out extra hardware and software. These features include user selectable input and output detectors, Automatic Gain Control (AGC), Automatic Level Control (ALC), and advanced protection schemes that also maximize output efficiency for a variety of modulations. These software controlled modes are summarized here:

OUTPUT POWER MANAGEMENT

- ☑ AGC (you set the gain of the amplifier)
- ☑ ALC (you set the output power level regardless of input)
- ☑ MGC (Manual Gain Control- typical amplifier open loop)

INPUT SIGNAL MODULATION

- ☑ FM, AM, Pulsed, CDMA, FSK, QPSK, OFDM, Multi-tone, Pulsed, Frequency Hopping, and more in a single amplifier

DETECTORS ON INPUT AND OUTPUT

- ☑ Peak
- ☑ RMS

Front Panel, PC and Lan Control

TOUCH-SCREEN FRONT PANEL

Empower's Next Gen Amplifiers include a touch screen LCD with full access to all the same system controls, sensors, and alarms that are available when connected with your laptop/Web browser or remotely through your LAN/PC/Web browser. All remote control can be locked out via the front panel or if the amplifier is controlled remotely, the on-site user is free to navigate through the front panel and to monitor the amplifiers real time status without ability to set controls.

WEB BROWSER INTERFACE

Our GUI provides the user with the flexibility to operate the amplifier in modes specific to your application and is written in HTML and delivered via the internal web server so no software installation is required on any PC since you simply open your web browser with the amplifiers IP address, whether a peer to peer direct connection or accessed via LAN. SCPI commands have also been implemented and all alarms are pushed out the LXI interface so no polling software is required.

See screen-shots on other side

Rev. 1.2 / 03-28-2017

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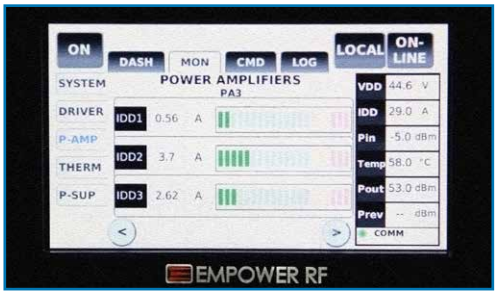
High Power Amplifier Solutions

NEXTGEN SYSTEM MONITORING AND CONTROL (GUI)

Touch-Screen Front Panel

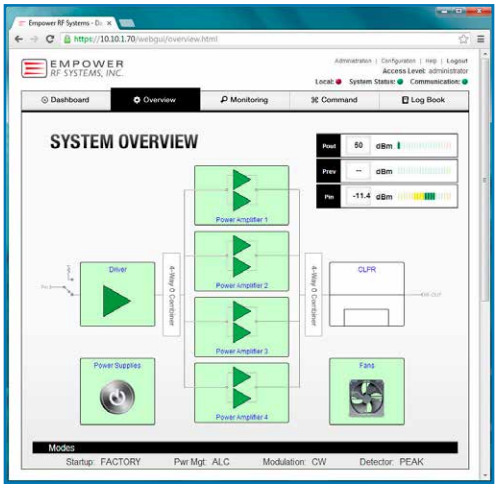
The **Dashboard** is your quick at-a-glance system status showing output power, reflected power, input power, internal temperature, transistor drain current, and transistor drain voltage.

System monitoring shows all the at-a-glance status shown on the Dashboard and goes further with a display of major system component alarms. On any screen a swipe to the right or left takes you to the next sub tab screen.

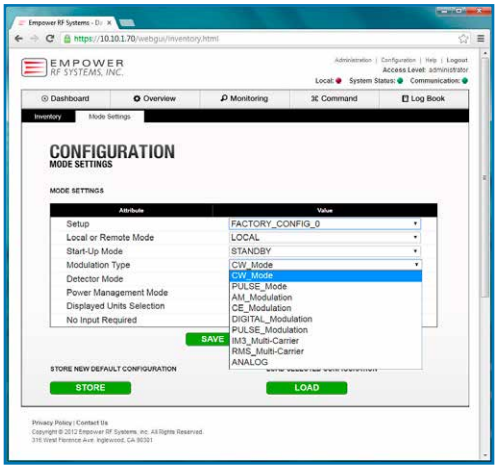


Notice the left side navigation where further drilling down of internal system functions can be viewed. This level of monitoring is a world's first providing the system engineer with a debug capability that quickly tells you if the system issues are up or downstream of the amplifier.

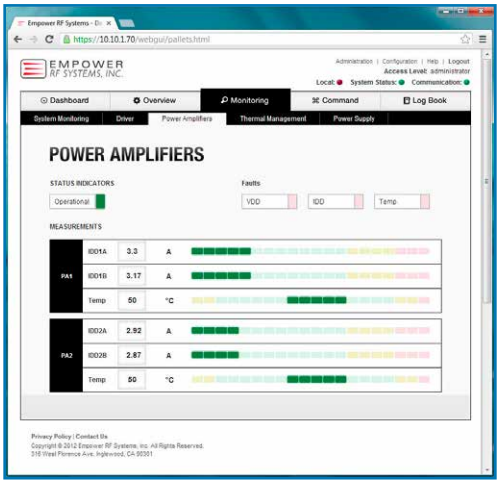
Web Browser Interface



Here is the **GUI Overview page** seen through the web browser of a peer connected PC or via Lan. Its more than just a block diagram graphic since each block is click-able to drill down to system health parameters.



The pull down menu on the **Configuration page** makes it quick and easy to set the proper input modulation scheme to ensure both the input power and output power metering is accurate and not "for indication purposes only".



Integral to the performance of the overall HPA, **Power Amplifiers** display provides operating conditions and "wellness" for each of the RF output pallets. Color coded status for operating conditions and fault indicators provide additional visual feedback to the user.

For More Information and Interactive Demo visit: http://www.EmpowerRF.com/software/