R&S® M3SR Series 4100
HF Radio Family for Stationary and Shipborne Communications

Brief Summary

Götz Mayser
Product Management HF Radios
M3xR Family
Multiband Multimode Multirole Radios
Frequency Bands of R&S® M3SR
R&S®M3SR Series 4100 - Key facts

- Software defined radio
- Frequency range:
  - 1.5 MHz to 30 MHz (transmission)
  - 10 kHz to 30 MHz (reception)
- Flexible range of applications
- Interoperable with R&S®M3TR
- Easy operation
- Low maintenance effort
- Collocation capability
- Selective level control for optimum transmit power
- Frequency-agile pre- and postselectors improve the large-signal characteristics
R&S® M3SR Series 4100 is used for...

- **Military and paramilitary customers worldwide**
  - Naval communication systems (ship and shore)
  - Army communication systems
  - Coast and Border Guard communication systems

- **Civil applications**
  - HF Embassy Networks
  - Air Traffic Control (ATC)
  - International Aid Organizations
Several Power Classes and Standalone Receiver available

R&S®EK4100 Receiver

R&S®XK4115 Transceiver

Broadband System

500 / 1000 W Transceiver System
System Components –
Antenna Tuning Units

- Several models for naval and stationary installations
- Models for 150W, 500W and 1000W RF output available
- Silent tuning capability
- Frequency hopping capability (except FK2900M)

FK4115M
FK4150U
FK2900M
FK4190M
Operation Modes

- Fixed frequency modes (voice, data, morse)
- EPM waveform R&S® SECOM-H
  - HF slow hopping waveform with embedded comsec
  - Voice, data, IP
- Data link capability in line with
  - STANAG 5511
  - STANAG 5522
- Embedded HF modem waveforms
  - STANAG 4285
  - STANAG 4539
  - MIL-STD-188-110B Appendix F
  - STANAG 4481
  - STANAG 5065 (only RX)
  - STANAG 4529
ALE (Automatic Link Establishment)

- ALE-2G (FED-STD-1045-1046-1049)

- ALE-3G / STANAG 4538
  - Fast link setup
  - Embedded data link protocols HDL and LDL
    - With transparent IP interface
    - Adaptive xDL protocol selection
  - Linking protection
  - Voice priority over data
  - Occupancy detection

- 2G/3G interoperability mode
IP over Air (IPoA)

- Transparent IP interface with static IP routing
- Several waveforms supported
  - xDL (STANAG 4538)
  - SECOM-H
- Allows easy integration of IP based applications
- Embedded text message application
Many thanks for your attention!

Questions…