

COFDM signals

generated with Software DAB-K1

COFDM signals (coded orthogonal frequency division multiplex) are used in the new DAB (digital audio broadcasting) and DVB (digital video broadcasting) services.

The Software DAB-K1 is a convenient tool for computing COFDM signals and downloading these signals to the Dual Arbitrary Waveform Generator ADS. From here, the signals are fed into the Vector Signal Generator SMHU58 and converted to the RF frequency range.

Features of DAB-K1:

- Simulation of DAB and DVB signals using COFDM modulation
- DAB modes 1, 2 and 3 selectable according to ETS300401
- Generation of symbols with or without guard interval
- Generation of frames with an arbitrary number of symbols
- D/A converter resolution selectable between 1 and 12 bits
- Simulation of signal impairments, eg fading, amplitude and phase errors
- Simulation of power clipping
- Oversampling to avoid aliasing problems
- Bandwidth of COFDM signals 1.5 MHz for DAB, 8 MHz for DVB or up to 200 MHz for other applications
- Computation of various other multi-carrier signals
- Frequency range 1 MHz to 2 GHz including VHF, UHF and L band



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Hardware requirements

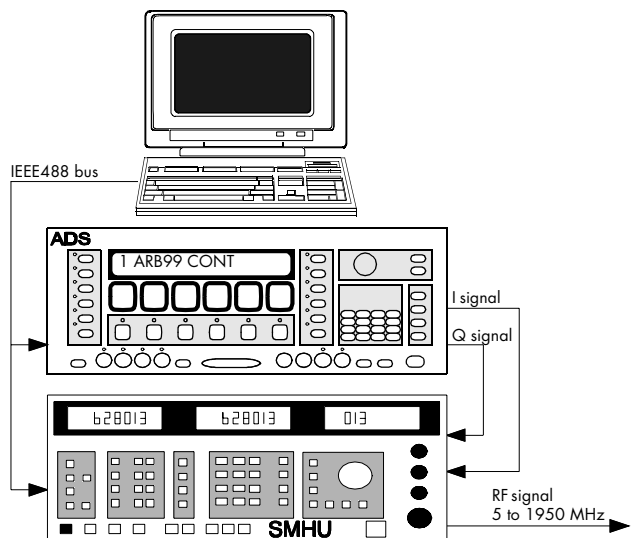
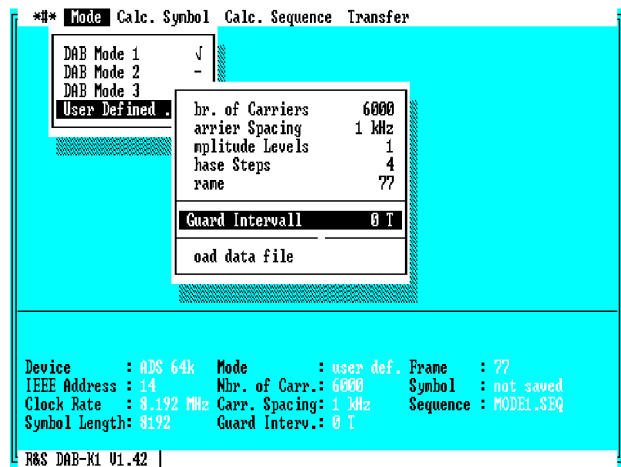
Controller	PSA controller family or AT-compatible PC to industry standard
Operating system	MS-DOS 5.0 or higher
Main memory	min. 500 Kbyte of free RAM
IEC/IEEE-bus card (IEEE 488.1)	Rohde&Schwarz IEC/IEEE-bus card (PS-B4) or National Instruments PCIIA card
IEC/IEEE-bus driver	Rohde&Schwarz IEC/IEEE-bus driver (PS-K2) or National Instruments GPIB-PC software
Mouse	serial Microsoft mouse or compatibles

Supported generators

Signal Generator SMHU 58	signal generator with I/Q modulator, 1 MHz to 2 GHz (0835.8011.58)
ARB Generator ADS	two-channel, programmable ARB generator (1012.4002.02) with option Clock Generator ADS-B1 (1013.5748.92)
ARB Generator AWG2021	programmable ARB generator with optional second channel (Opt. 02), manufactured by Tektronix

Ordering information

Order designation	Software DAB-K1 1039.4649.02
Scope of delivery	1 operating manual 1 floppy disk 3 1/2", 1.44 Mbyte



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