Software SME-K2

Generating communication signals with Signal Generator SME

- Easy generation of TDMA bursts with graphical display
- Predefined burst structures according to communication standards GSM, DCS1800, DCS1900, IS-136 (NADC), DECT, PDC
- Automatic setting of signal generator (frequency, level, modulation, burst control)

- Synchronization words according to communication standards or user definition
- PRBS data sequences (2^9-1 or $2^{15}-1$), continued in same time slot from frame to frame
- User-defined modulation data
- Signal generator control via IEC/IEEE bus or RS232 connection

Modulation data selection
- The data sections of all bursts may be set to:
  - All 0, all 1
  - PRBS 2^9-1, PRBS $2^{15}-1$ in data section of burst
  - Bit pattern (length of pattern up to max. number of bits in time slot)
  - File input

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Available bursts/physical channels (according to system specifications):

GSM, DCS1800, DCS1900
Normal (TSC0 to TSC7, user-defined), frequency correction, synchronization, dummy, access burst

IS-136 (NADC)
Downlink (synchronization words S1 to S6), uplink (synchronization words S1 to S6), shortened uplink, all eight combinations of full-rate and half-rate channels possible

DECT
Short PCH R00, basic PCH R32, low-rate PCH R0j (L=0/L=1), high-capacity PCH R80, optionally with Z field

PDC
Downlink and uplink: traffic PCH, control PCH, synchronization burst, all eight combinations of full-rate and half-rate channels possible, slot at head of super-frame

Additional
Random (PRBS 2^9-1 or PRBS $2^{15}-1$), file input, bit pattern

The continually growing demand in communication calls for setting up more and more new wireless communication networks worldwide. Universal signal generators such as Signal Generator SME, which simply and precisely provide the required test signals, are used for the development and production of base stations, cellular phones and chip sets used by these communication systems.

Program SME-K2 facilitates the setting of SME to the different signals required and greatly enhances its usability.

SME-K2 runs under Windows and can be completely mouse-operated. Thanks to the integrated help function, working with the program is really easy: clicking a box with the right-hand mouse button calls up the required help text.

After selection of the communication system (GSM, DCS1800, DCS1900, IS-136, DECT, PDC are available) and the traffic direction (uplink or downlink) the required modulation data are set by simply clicking the appropriate time slot in the slot activity graph. Depending on the available memory in SME, the modulation data may be up to 8,192 (SME-B11) or 1,048,560 bits long.

The control of the signal generator (setting of frequency and level, modulation and burst control settings, transfer of modulation data) is accomplished either via IEC/IEEE bus or via RS232 connection (up to 16 com ports are supported).

Certified Quality System
ISO 9001
DQS REG. NO 1954-04

Menu for selecting GSM bursts
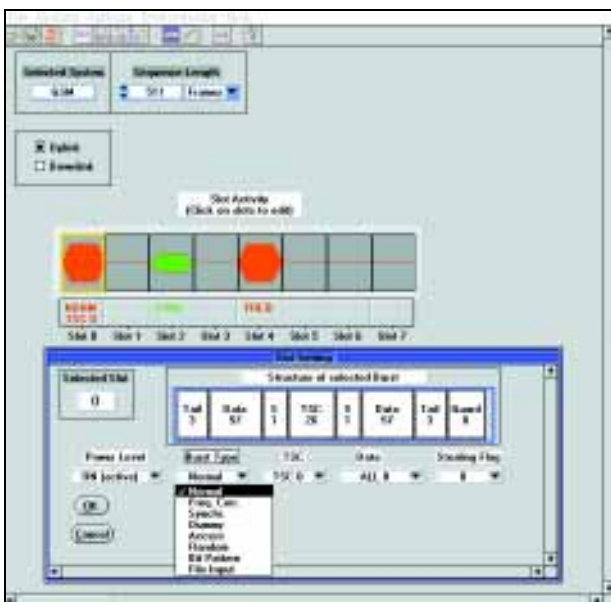
Hardware requirements

Controller	PSP, PSA controller family or AT-compatible PC to industry standard (CPU 386 + mathematical coprocessor or better)
Operating system	Windows 3.1x or Windows 95
Main memory	min. 8 Mbyte RAM
RS232	null modem cable (1050.0346.00)
IEC/IEEE-bus card (IEEE 488.2)	R&S PS-B4 (1006.6207.04) or National Instruments AT-GPIB card, Windows driver installed
Mouse	R&S PS-B11, serial Microsoft mouse or compatibles

Supported generators

Signal Generator SME02	5 kHz to 1.5 GHz	1038.6002.02
Signal Generator SME03	5 kHz to 3 GHz	1038.6002.03
Signal Generator SME06	5 kHz to 6 GHz	1038.6002.06
with option (mandatory)		
DM Coder for SME02/03/06	SME-B11	1036.8720.02
Signal Generator SME03E	5 kHz to 2.2 GHz	1038.6002.13
(DM coder included)		

Supported options

8-Mbyte Memory Extension	SME-B12	1039.4090.02
Pulse Modulator for SME02	SM-B3	1036.6340.02
Pulse Modulator for SME03/E	SM-B8	1036.6805.02
Pulse Modulator for SME06	SM-B9	1036.5100.02
Pulse Generator for SME	SM-B4	1036.6340.02

Ordering information

Order designation	Software SME-K2 1104.7736.02
Accessories supplied	1 operating manual, 2 floppy disks 3 $1/_2$", 1.44 Mbyte

Software SME-K2 was developed using LabWindows CVI (trademark of National Instruments).

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