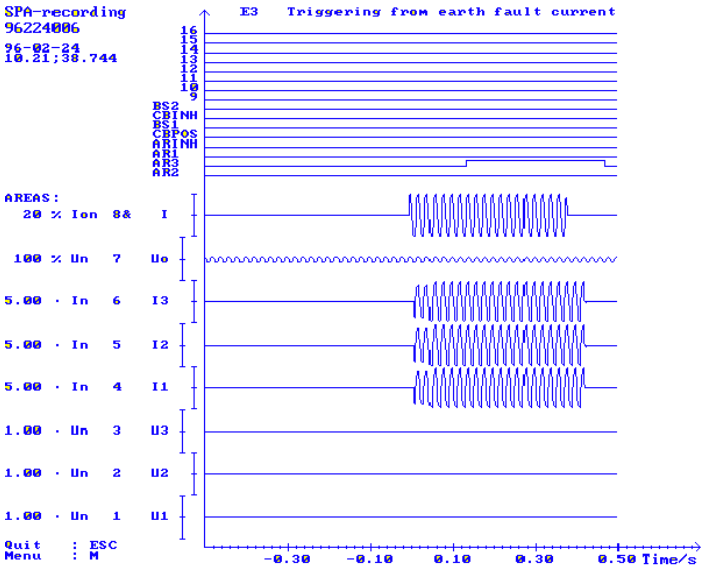
Communicate^{IT} Software module DR-COM

Buyer's Guide



Industrial^{IT} enabled

ABB

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Features

- Periodical and automatic collection of recordings on substation level
- Manual collection of recordings on module level
- Disturbance evaluation
- Possibility of automatic (re-)starting of the program
- Automatic modem Dial and Hang-up handling
- Utilizes the public switched telephone network for remote connection
- Can be used with the REPORT program
- Easily added to an existing SMS 010 system
- COMTRADE format
- Low cost network phenomena analysing and archiving program
- Easy start-up and use

Application

The DR-COM software module is part of the SMS 010 Substation Monitoring System. The DR-COM module is used for automatic time-controlled or manual uploading of recordings from separate SPACOM disturbance recorders, i.e. SPCR 8C19 and SPCR 8C27 or from disturbance recorders integrated into protection relay modules, e.g. SPCD 2D55 and SPCD 3D53. The module is equipped with a built-in evaluator which presents the recordings as editable curves on the screen. The DR-COM module offers a low-cost solution for analysing electrical phenomena in the network and the internal signals of terminals provided with a disturbance recorder.

The DR-COM software module also requires that the SMS-BASE software has been installed and that the system includes disturbance recorder modules in SM/SPCR or SM/SPA_. The REVAL or WINEVE software can also be used for evaluation of recordings.

The DR-COM software is run on a PC which is connected either directly via a cable or via bus connection modules to one or several disturbance recorders. Telephone modems can also be used. When modems are used the telephone number is automatically dialled and the line automatically hang up after the session is finished.

Design

The DR-COM module, i.e. Disturbance Recorder COMmunication module, is a software product that is used in the SMS 010 system for uploading recordings from SPACOM disturbance recorders. The uploading can be performed manually in which case it is started on the module level or automatically, in which case it is started on the substation level.

The DR-COM software includes a built-in evaluator which draws curves of the recordings on the screen. These drawings are editable. The evaluator has capacity for 8 analog and 16 digital channels. The relay module SPCD 2D55 incorporates 8 analog and 12 digital channels and the relay module SPCD 3D53 features 6 analog and 12 digital channels, while the dedicated recorder module SPCR 8C27 has 8 analog and 8 digital channels.

The DR-COM can be run continuously, performing uploading according to the time interval specified in the DR-COM station configuration. The benefit of automatic uploading is e.g. that the recordings are regularly uploaded and the operator can start evaluating the recordings already when he or she arrives. Another advantage by cyclical uploading is that the recorder memory is released from the recordings and ready for collecting new disturbances.

When the DR-COM module is started on the module level, the uploading is done on demand and only from the module at which the DR-COM module is started.

The DR-COM module can also be started from within other programs, e.g. the REPORT program. This REPORT program feature enables continuous collection of both events/alarms, loggings and recordings to the same SMS 010 system. Further, the DR-COM module can be started in stand-alone mode on demand, or automatically, by turning on the PC or by a restart after a power failure. The power structure created with the SMS-BASE software is always used by the DR-COM module, also in the stand-alone mode.

The automatic restart function offers a major benefit to an unmanned SMS 010 substation in the event of a general power failure. In a situation like this, the automatic restart function of the DR-COM program will immediately start the uploading of the recordings, and no waiting for an operator to start the SMS 010 system is required. The battery backed up SPCR 8C19 and SPCR 8C27 modules retain their recordings also during a power failure, but the SPCD 2D55 and SPCD 3D53 modules loose their disturbance recordings, should the power be disconnected.

A disturbance recorder cannot record new data when its recordings are being uploaded.

The setting of the disturbance recorder modules and the corresponding modules in the power structure is done with the SMS-BASE software.

The REVAL or WINEVE software can be used for demanding analysis of network phenomena. The DR-COM software provides the recordings in the COMTRADE format required by these programs.

Technical data

Operating requirements for the DR-COM software and the SMS-BASE software

Table 1: Hardware requirements

Terminal end	Substation equipment	SPCR 8C19 or SPCR 8C27, SPCD 2D55, SPCD 3D53
	Communication protocol	SPA
	Connection alternatives	Fibre-optic loop Directly via cable to the terminal
Remote communication	Leased telephone lines	modems
	Switched telephone line	Modem with auto-answer at the substation
	Telephone line standard	CCITT
	Telephone modem control at PC end	“AT” commands
Personal computer	Type of PC	IBM® AT® (80286) or better
	Compatibility	100% IBM compatible
	Operating system	MS-DOS® 3.3 or higher
	Main memory	500 kB available
	Hard disk space for DR-COM program	2.4 MB
	Display	VGA or SVGA colour display
	Parallel port, LPT1	1 for the printer
	Code page	437, 860, 863 or 865

Power structure and data memories

The power structure represents the actual physical structure of the power system with substations, bays/cubicles and terminals and it enables the user to select terminal and data memories of interest.

Table 2: Power structure and data memories

Communication settings	Serial ports	COM1, COM2
	Transfer rates	300, 1200, 2400, 4800, 9600, 19200 Baud
	Transfer protocols	SPA, SRIO
Data transmission time at 9600 Baud (SPCR 8C27 and SPCR 8C19)	Uploading via front connector (RS)	0.05 s/measurement
	Uploading via SPA bus, min.	0.09 s/measurement
	Uploading via SACO/SRIO device	0.75 s/measurement
	Time to establish a modem link, typ.	10 s

Block diagram

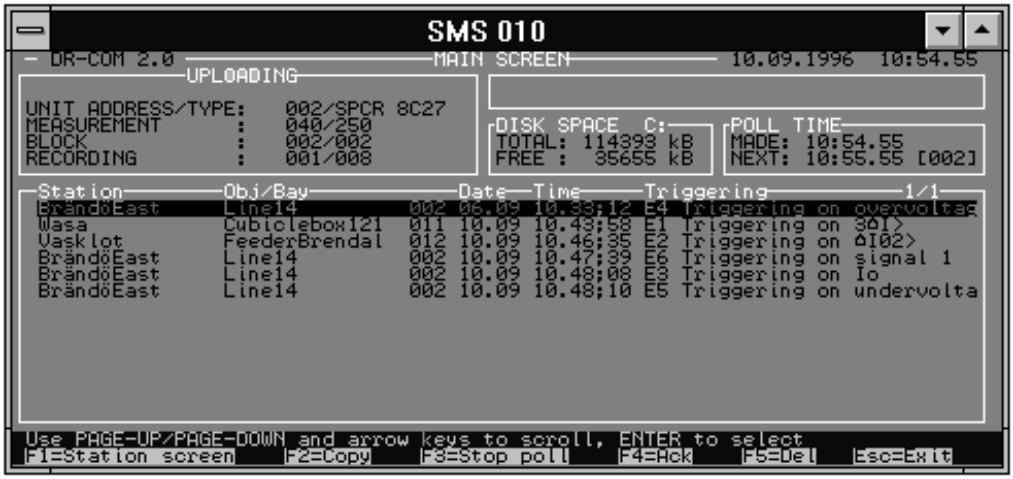

Fig. 1 The main screen of the DR-COM program

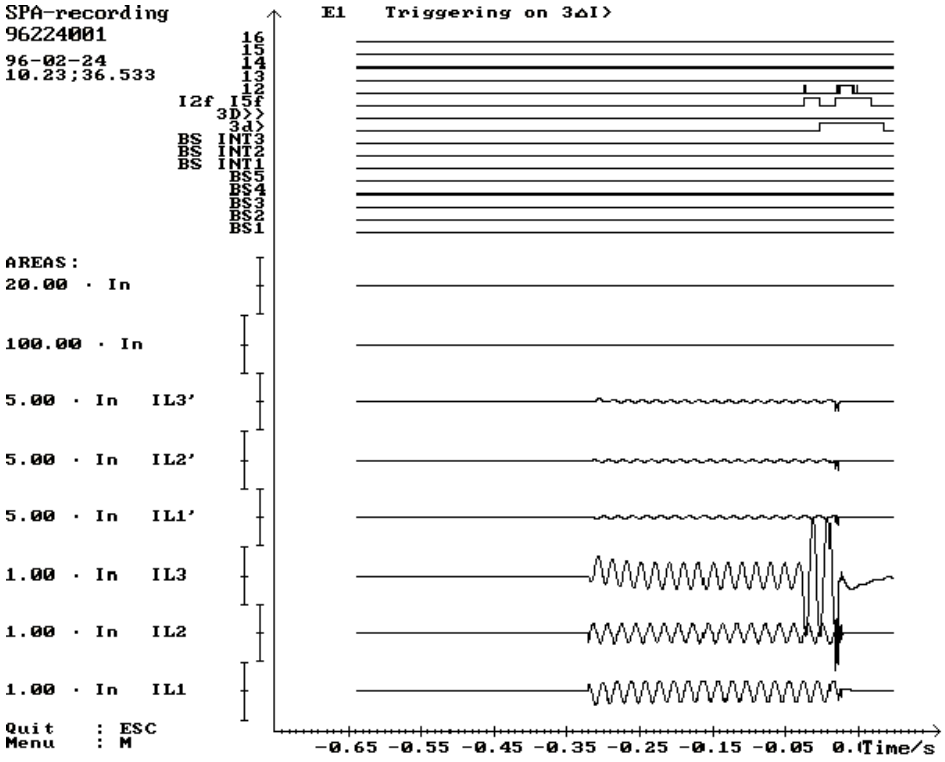

Fig. 2 A recording by SPCD 3D53 is drawn by the DR-COM evaluator

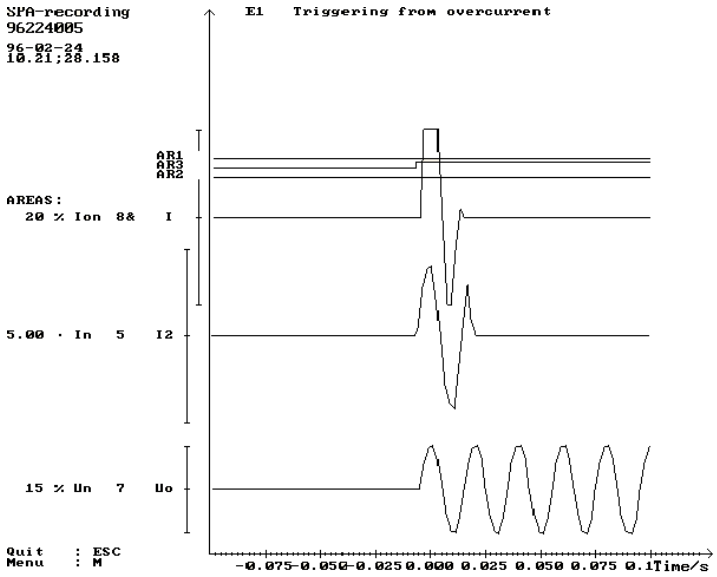

Fig. 3 Recording from the recorder module SPCR 8C27 drawn by the DR-COM evaluator using edited drawing parameters

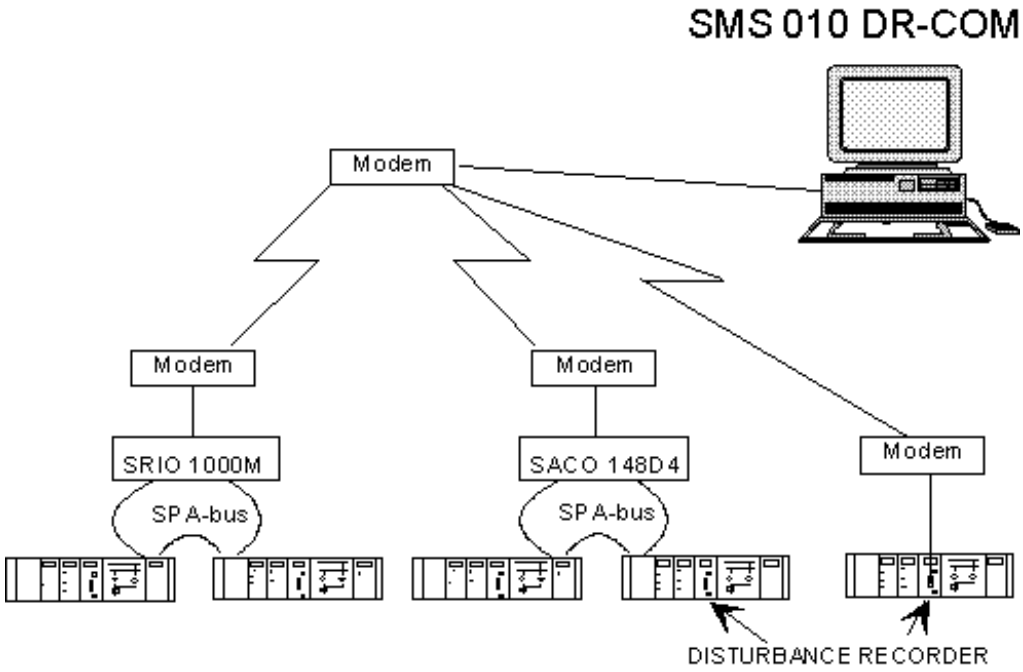

Fig. 4 Connection alternatives of an SMS 010 system including the DR-COM program

Ordering

When ordering, please specify:

Ordering information	Ordering example
1. Type designation and quantity	DR-COM, 1 piece
2. Order number	RS 881 016-AA
3. Software end user: Name, company and address	

Order numbers

Software module DR-COM English	RS 881 016-AA

References

Additional information

User's Guide "DR-COM"	1MRS 750079-ESD

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