

RRR

RADAR DATA RECORDING & REPLAY SYSTEM

COMSOFT

PRODUCT INFORMATION

RRR is COMSOFT's solution for the authentic recording and replay of large amounts of digital data. Based on forefront mass storage technology the system is designed and adapted to the needs of today's and tomorrow's ATM environments.

The RRR system is COMSOFT's answer to the growing demands for archiving, retrieval and processing of huge amounts of surveillance data. It allows the simultaneous and synchronized recording and replay of a multitude of radar data channels.

RRR is highly scalable, e.g., in terms of the number of recording/replay channels, operator working positions or storage volumes.

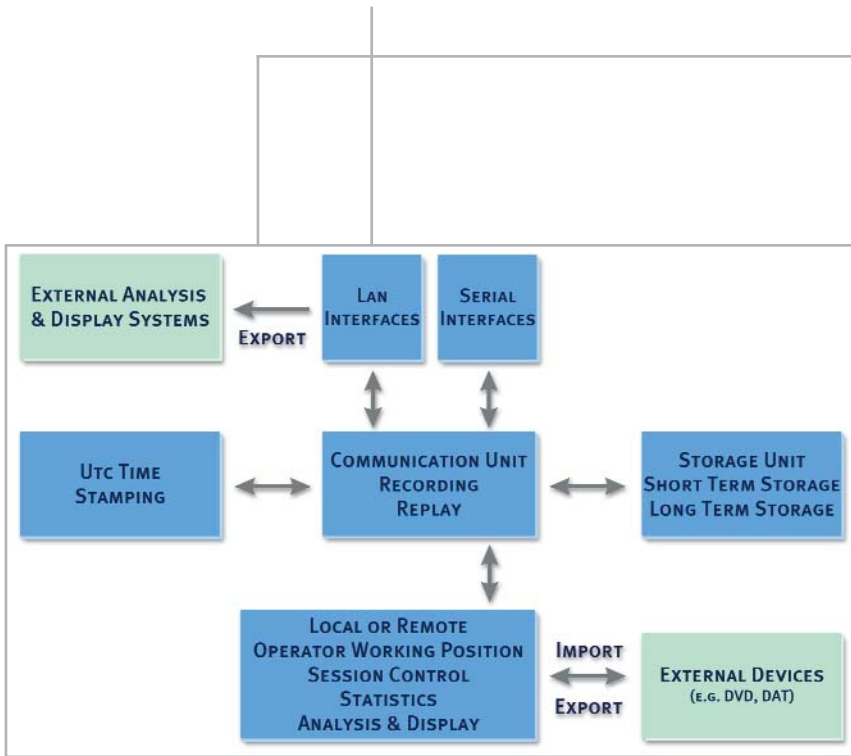
Replay features include stretching factors for slow motion and replay speed-up. Advanced RAID technology provides immediate access to data stored up to 470 days. Time stamping is UTC-based, using either GPS, DCF 77 or NTP.

RRR is also ideally suited as surveillance data server for training sessions, for off-line technical data analysis, for search and rescue, as well as assistance in legal recording.

HIGHLIGHTS

- Flexible recording & replay functions with integrated statistics
- Large inventory of supported protocols & radar data formats
- Open architecture towards external systems for analysis & display
- Fast online and random access to all recorded data for up to 470 days
- Advanced RAID technology
- Optionally with synchronized voice recording
- Compliant to EUROCAE ED 111 for CNS/ATM ground recording
- Optional technical monitoring & surveillance data analysis package





RRR Architecture

The RRR's Operator Working Positions are realized by a PC-based Linux workstation supporting a high resolution colour monitor with an X-Windows System and OSF/Motif user interface under Linux.

The system supports a wide range of possible storage devices, starting from a single COTS hard disk drive up to highly sophisticated RAID technology. The capacity of different types of storage devices is fully scalable according to customer requirements.

The Communication units embrace all interface functions for Ethernet or FDDI LANs and serial connections from which data is recorded or replayed to. The combination of interface types, protocols and formats can be customized to given user requirements. The RRR can support the following data formats and protocols:

FORMATS & PROTOCOLS

Format	Protocol
ASTERIX	X.25, HDLC LAPB, HDLC Frame Level, LLC1, TP4, TCP/IP, UDP/IP
AIRCAT	Byte Sync, Async
CAA	Sync (12-bit Field)
CD2	Sync (12-bit Field)
EURO	Byte Sync
F200	Sync (10-bit Field)
LR	Sync (12-bit Field)
NAV1	HDLC LAPB, HDLC Frame Level
RDE	Byte Sync
RDIF	X.25, HDLC LAPB, HDLC Frame Level
RLD,SVE	Byte Sync
RRP	Byte Sync
SR	Sync (12-bit Field)

Other user-specific formats and protocols on demand

STATISTICAL FUNCTIONS

RRR incorporates advanced functions for statistical analysis. For every recorded interface/channel a detailed load distribution is available. The analysis can either be based on the incoming and outgoing bytes/sec or messages/sec (separately for each channel). The granularity of the statistics goes down to 5 minute intervals of the recording.

ADDITIONAL TOOLS

RRR provides extensive import and export features. Recorded data can be exported either for offline backup purposes or for further detailed analysis in external radar quality assessment tools, like SASS-C. On the other hand data can be imported via DVD or DAT for incident analysis. The system can be supervised and controlled remotely, via an SNMP interface or by using the integrated system indicator facility developed by COMSOFT.

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