DiRECT CR is a state-of-the-art digital recording system for video, audio and bus-data intended for new and legacy airborne platforms. The DiRECT CR System was developed to meet the demanding requirements of helicopters, jet fighters and trainers, and the missions conducted by military as well as security and police organisations.

The versatile recording capabilities, the powerful in-flight video replay features and the ease of mounting make the DiRECT CR System the ideal choice when replacing obsolete video cassette recorders, or when adding modern digital recording on new platforms.

The DiRECT CR System is capable of recording High Definition Digital Video sourced by the latest generation of airborne sensors. In-flight video replay capability gives rapid access to video recorded during a mission and thereby enhances the situational awareness. JPEG2000 video compression ensures superior quality of every frame enabling a comprehensive in-flight or post-mission analysis.

The removable Mass Memory Cartridge gives at least 3 hours of recording time of multiple input channels, whilst ‘hot-swapping’ of the cartridge extends the recording time. Video compression parameters of every video input channel can be controlled in flight to optimize the image quality and recording time dependency.

The DiRECT CR Processor is controllable via an RS-422 bus using the menu-driven DiRECT Control Panel or an equivalent customer provided control device. Other control options are discrete control or control by means of a MIL-STD 1553B bus or a Fast Ethernet bus.

When the CR Processor is fitted in an inaccessible location a console or cockpit-mounted External Cartridge Bay gives easy access to the Mass Memory Cartridge.

Comprehensive Built-In-Tests assure maintainability at all levels and a cost effective Life Cycle Management.

The Saab ground replay software provides for simultaneous and synchronized replay on a PC / laptop of recorded video and audio from several sources, and replay of bus-data as an option.
TECHNICAL SPECIFICATIONS

GENERAL
- JPEG 2000 Video compression
- Recording of:
  - up to two digital High Definition Video input channels (HD-SDI)
  - up to six analogue Standard Definition Video input channels
  - up to four audio input channels
  - up to four MIL-STD-1553B dual-redundant channels (option)
  - one ARINC 429 bus (option)
  - one Ethernet bus (option)
  - In-flight replay of any one recorded video channel at a time whilst continuing recording (option)
  - Event marks handling
  - Removable Solid State Mass Memory Cartridge with IEEE1394B interface
  - In-flight Mass Memory erase (standard) and purge (option)
  - Data Transfer Unit functionality (option)
  - Extensive Built-in-Test
  - Choice of tray or flange-mounted version of the CR Processor
  - DiRECT Control Panel and External Cartridge Bay options are DZUS mounted
  - MIL-C-38999 external connectors
  - All units are cooled by natural convection of air

- Mass of CR Processor including MMC < 4.8 kg
- Dimensions of CR Processor (flange-mounted):
  - WxDxH= 175x175x173 mm (excluding door and connectors)
  - Power requirements of CR Processor:
    - +28 V DC at < 55 W

INTERFACES:
High Definition Video (SMPTE-292M):
- 720p @ 60/50 Hz frame rate
- 1080i @ 60/50 Hz field rate

Standard Definition Video:
- RS170A (NTSC)
- RS170
- PAL
- STANAG 3350 (Class A/B/C)
- RS343 (675-line system @ 60 Hz)
- VESA video: VGA to XGA (option)

 Analogue Video Signal Formats:
- Composite (colour and monochrome)
- S-Video
- RGB (Sync. on green or separate sync.)

Serial Data Interfaces:
- RS-422B
- ARINC 429
- Fast Ethernet (standard) / Gigabit Ethernet (option)
- MIL-STD-1553B bus (option)

Time Sources:
- ARINC 429 (option)
- MIL-STD-1553B bus (option)
- IRIG 200-4 Type B (option)
- NMEA 0183 (option)

QUALIFICATION CONDITIONS:
- RTCA DO-160E
- MIL-STD-810F
- MIL-STD-461E
- MIL-STD-704E

OTHER
- Test bench for ground maintenance (option)
- Saab Ground Replay Software (Windows® based)
- Saab Ground Replay Station (option)