

Veri Kayıt Sistemi

Digital Data Recorder



VERİ KAYIT SİSTEMİ (VKS), temel olarak platformda oluşan sayısal kontrol verilerini, video ve ses sinyallerini kaydetmeyi amaçlar. Sayısal kontrol veri tiplerine MIL-STD-1553B, ARINC429, CAN ve Ethernet veri yolları üzerinden alınan veriler örnek gösterilebilir. Video arayüzleri ise PAL, NTSC, RS170, RS343, DVI, SDI ya da DisplayPort olabilmektedir. Sayısal kontrol verilerinin kaydı, veri haberleşme hatlarının doğrudan dinlenmesiyle olabildiği gibi, merkezi kontrol birimlerinin kayıt sistemine doğrudan veri yollaması şeklinde de gerçekleştirilmektedir.

DDR has the capability of recording digital control data, video and audio signals at various platforms. MIL-STD-1553B, ARINC429, CAN and Ethernet data buses can be given as examples of the digital control data types. Video interfaces can be PAL, NTSC, RS170, RS343, DVI, SDI or Display Port. The digital control data can be accessed via direct communication with data buses or it could be by means of a central control computer. The video and audio data received by DDR is recorded after processing high efficiency compression algorithms.

VKS tarafından alınan video ve ses verileri ise yüksek verimlilikli algoritmalarla sıkıştırılarak kaydedilmektedir. Kayıt için kullanılan taşınabilir bellek modülleri, uçuş sonrasında yer destek bilgisayarlarına standart endüstriyel arayüzler üzerinden (USB, Ethernet, SATA vb.) bağlanarak verilere erişim imkanı tanır. T-38 Eğitim Uçağı, ASELPOD Görüntüleme Podu, Türk İnsansız Hava Aracı (TIHA) ve Atak Helikopteri Veri Kayıt Sistemi ailesinin halihazırda yer aldığı programlardan bazılarıdır.

Ana Özellikler

- Yüksek çözünürlü video ve ses kayıt (PAL/NTSC/RS170)
- MIL-STD-1553 ve ARINC-429 Avionic veri yolu kayıt özelliği

- Ethernet üzerinde görev verisi paylaşma özelliği
- Kayıtlı verilerin eş zamanlı tekrar oynatımı
- MIL-STD-1553 Ethernet seri ve ayrık arayüzler üzerinden kontrol edilebilme özelliği
- Olay işaretleme
- Güvenli veri silme arayüzü
- Çıkarılabilir SSD tabanlı bellek birimi (512 GB Kapasite)
- Bakım amaçlı yer destek bilgisayarı
- Yer ardözetlem istasyonu
- 512 GB SSD tabanlı çıkarılabilir disk
- 4 Kanal MIL-STD-1553
- 4 Kanal PAL/NTSC/RS170 Video kayıt arayüzü
- 3 Kanal Displayport Video kayıt arayüzü
- 2 Kanal HDMI Video kayıt arayüzü
- 2 Kanal SDI Video kayıt arayüzü

Removable memory modules used for recordings are connected to the post-flight ground support computer via standard industrial interfaces (USB, Ethernet, SATA etc.) in order to access the recorded data. The T-38 Trainer Aircraft, the ASELPOD Targeting Pod, the Turkish Unmanned Airborne Vehicle (TIHA) ANKA and the ATAK Helicopter are some of the current programmes that SDT provides DDR products.

Main Features

- High Resolution video and audio recording (PAL/NTSC/RS170)
- Avionic data bus recording over MIL-STD-1553 and ARINC-429
- High speed data recording over Ethernet

- Simultaneous playback of recorded data
- Control over MIL-STD-1553, Ethernet, serial interfaces and Discrete I/O
- Event Marking
- Secure data erase interface
- Removable SSD (512 GB)
- Ground support computer for maintenance
- Ground debriefing station
- Up to 512 GB SSD Based Removable Disk
- Up to 4 Channels MIL-STD-1553
- Up to 4 Channels PAL/NTSC/RS170 Video recorder interface
- Up to 3 Channels DisplayPort Video recorder interface
- Up to 2 Channels HDMI Video recorder interface
- Up to 2 Channels SDI Video recorder interface

	Control Interface	MIL-STD-1553 Interface	Video Recording and Playback	Audio Recording and Playback	Discrete Inputs	Discrete Outputs	Disk Capacity	Dimensions	Weight	Power Requirements	Compatibility with Military Standards
DDR- 100 (UAV EO)	MIL-STD-1553	2 Channels Dual Redundant	-	-	-	-	Up to 512 GB	122x177x97 mm	Digital Recording Unit:2280 gr Removable Media Module:1300 g	28 V / 23,5 W	
DDR- 200 (FIXED WINGAC)	MIL-STD-1553	2 Channels Dual Redundant	3 Channels 30fps/25fps Full Resolution (720 x480,720x576), NTSC /PAL/RS 170 Recording 1 Channel Full Resolution NTSC /PAL/RS 170 Playback	1 Channel Recording	Record, Event Mark and Zeroize	Record, RMM Full, Standby, BIT Status	Up to 512 GB	122x177x143 mm	3760 gr	28 V / 26 W	Environmental Conditions: MIL-STD-810
DDR- 300 (UAV SAR)	Ethernet (2 Channels Gigabit Ethernet Recording)	-	-	-	-	-	Up to 512 GB	122x177x127 mm	3200 gr	28 V / 16,5 W	EMI/EMC: MIL-STD-461
DDR- 400 (POD)	Ethernet	2 Channels Dual Redundant	2 Channels 30fps/25fps Full Resolution (720 x480, NTSC /PAL/RS 170 Recording 1 Channel Full Resolution NTSC /PAL/RS 170 Playback MPEG-4 Compression	-	Record All, Event Mark, Play, Channel Select, Scan Forward, Scan Reverse, Seek to Event Mark, Seek To Next File, Seek To Previous File, Zeroize, Secure Erase, Frame Freeze and Remote ON/OFF	Standby, Play, Record, RMM Full, RMM Fullness Ratio, SSR Plugged and SSR OK Status	Up to 512 GB	122x177x143 mm	3790 gr	28 V / 26 W	Indirect Effects of Lighting: RTCA DO-160
DDR- 500 (HELICOPTER)	MIL-STD-1553	4 Channels Dual Redundant	4 Channels 30fps/25fps Full Resolution (720 x480, 720x576) NTSC /PAL/RS 170 Recording 1 Channel Full Resolution NTSC /PAL/RS 170 Playback MPEG-4 Compression	2 Channels Recording 2 Channels Playback	Record, Event Mark and Zeroize	Playback, Record, RMM Full Status	Up to 512 GB	122x177x169 mm	4430 gr	28 V / 33 W	Power Characteristics: MIL-STD-704
DDR- 1000 (AIR PLATFORM)	MIL-STD-1553 and Ethernet	4 Channels Dual Redundant	1 channel HDMI or 1 channel SDI video recording resolutions up to 1080p30 / 1080i60,4 Channels 30/25fps Full Resolution (720x480,720x576) NTSC/PAL/RS170 recording with different playback options	2 Channels Recording 2 Channels Playba	Record, Play, Event Mark, Zeroize, Secure Erase	Record, Play, Standby, RMM Full Status	Up to 512 GB	122x177x160 mm	4410 gr	28 V / 34 W	ESD: RTCA DO-160E