

# Voice Recording System VC-MDX

## VDS-II VoIP Recording

Version 1908

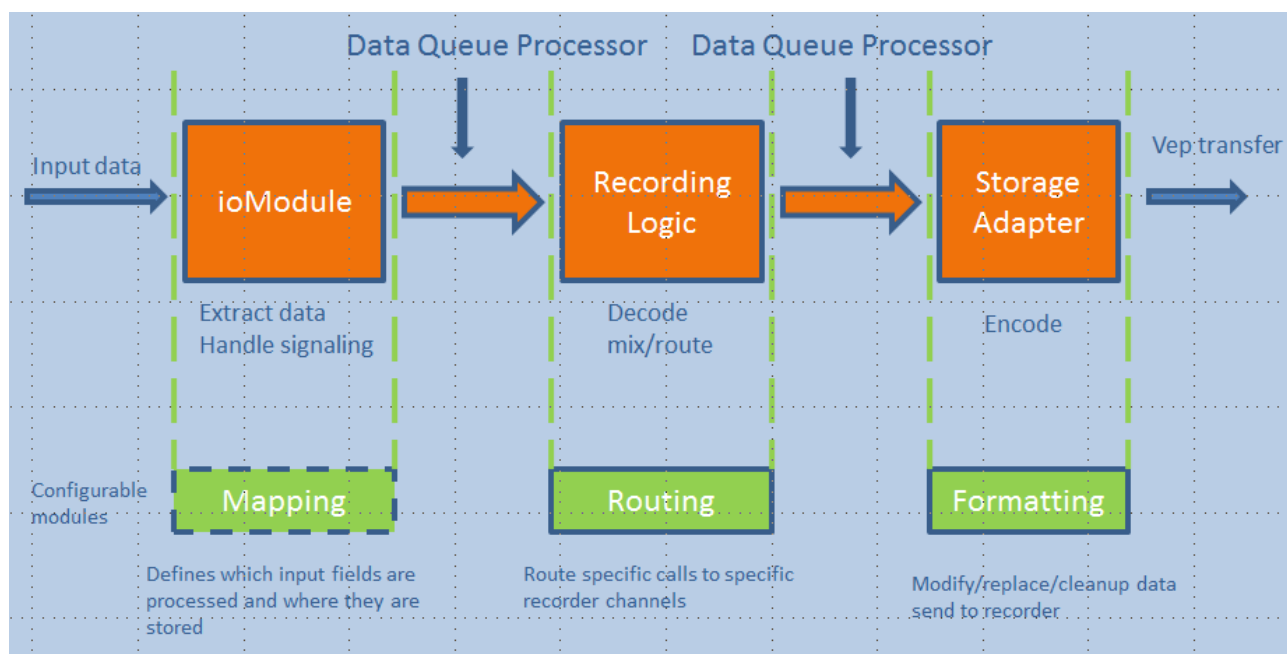
## 1 General

The Software Module VDS-II is a development of VoiceCollect GmbH (former ATIS Uher).

The VDS-II belongs to the VoiceCollect® product family and It is used as a powerful VoIP Middleware which covers Standard Protocols and is able to integrate smooth and seamless into proprietary VoIP Communication Systems.

VDS-II receives and processes VoIP communication and forwards content and call related data & events to the recording system VC-MDx

VDS-II can be installed, depending on the number of concurrent recording sessions, as a virtual input board on a VC-MDx Server or run on a separate server hardware



## 2 Interface

The hardware interface for VoIP recording is a COTS Ethernet Interface. This interface is a dedicated 1 GB interface for VoIP recording and compliant according to IEEE 802.3., The VoIP sources are directly connected to the VoIP recording dedicated Ethernet Interface of the VC-MDx.

The ability to record VoIP communication with VC-MDx is based on VoIP licences.

### 2.1. VoIP Recording ED137

- Recording according to ED137 B part 4 standard for the use of VoIP communication in Civil Aviation.
- Active connection to the recording system by other ED 137-enabled components like radio transmitters or voice communication systems (VCS) for single or redundant voice recording.
- Static Routing Function to allocate communication sources to recording channels.
- Storage and visualisation of events like PTT, Squelch or STD.

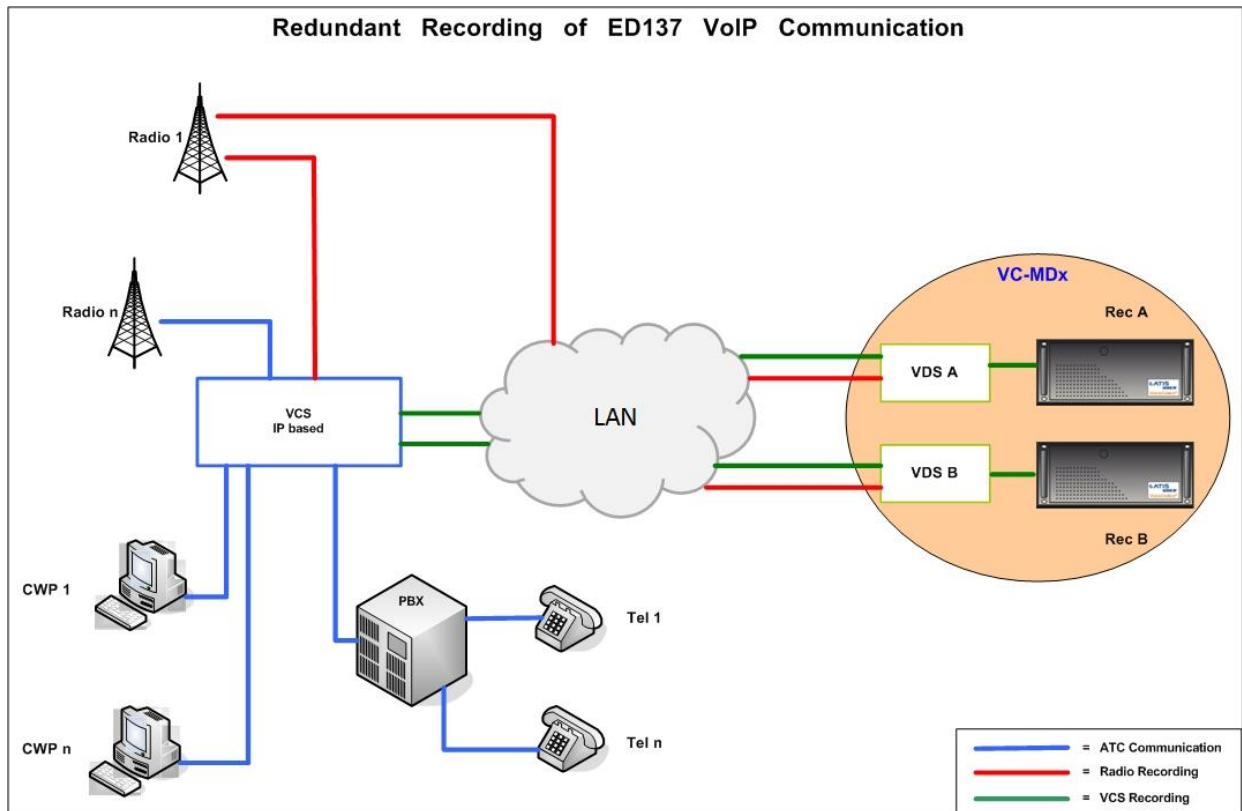
The solution for the legal recording of ED137 based communication is based on the VoIP Decoding System VDS-II and is usually combine dwith the recording system VC-MDx. VDS-II acts as the receiver towards VCS, CWP and radios.

The used VoIP protocol is according to Eurocae ED137 part 4 VoIP protocol. The protocol is designed for secure and reliable VoIP communication and recording in ATC and ATM environment. The protocol was designed by a Eurocae working group. VoiceCollect (former ATIS UHER) took part in this working group and we successfully tested our ED137 implementation at the ETSI organized plug test.

Redundant recording is already implemented in the ED137 protocol, ED137 compatible radios or VCS working positions sent two independent VoIP streams to the recording equipment. The recorded communications and additional data (CRD) are transmitted to the VC-MDx which stores the recordings, controls the archiving process and presents them for evaluation & playback.

Besides other radio types the solution is fully functional of VoIP recording with Radio PAE T6 Series and PAE M7 (T6R Receiver, T6T Transmitter, T6TR Transceiver, M7 Transceiver)

Operation	VDS-II receives communication from VCS, CWP, and Radios, -gateways via LAN Single or Redundant recording
Supported Standards	ED137B p.4
Supported Codecs	G.711
Supported call scenarios	Radio recording with mixed Rx/Tx Telephone recording Intercom recording
Miscellaneous	Static channel routing Dynamic channel routing Redundancy concepts



## Display of CRD and Events according to ED137b

The screenshot shows the VoiceCollect software interface. The top window displays a list of records with columns for Status, Record ID, Channel Number, Start Time, Stop Time, Duration, Long Comment, and CRD. Below this, the 'Call Related Data' window is open, showing a table of events with columns for Ctd Id, Session, Conn Ref, Event T., Received Time, Direction, Priority, Calling, Called, Alerting, Connec., and Setup T. A 'CRD Color Picker' dialog box is open over the table, allowing users to select colors for different CRD values. The dialog box has a 'Clear' button and a 'Clear all' button.

Record ID	Channel Number	Start Time	Stop Time	Duration	Long Comment	CRD
120	8	7/2/2014 2:54:29 PM	7/2/2014 2:58:49 PM	00:04:20		Yes
119	7	7/2/2014 2:54:29 PM	7/2/2014 2:58:49 PM	00:04:20		Yes
118	6	7/2/2014 2:58:29 PM	7/2/2014 2:58:49 PM	00:04:20		Yes

Ctd Id	Session	Conn Ref	Event T.	Received Time	Direction	Priority	Calling	Called	Alerting	Connec.	Setup T.	Property	Value
6	d515d6	530787	SQU OFF	2015-11-21 0...								Ctd Id	11
5	d515d6	530787	PTT OFF	2015-11-21 0...								Session Id	c58867ce-83e9-43b3-8859-a7640ceb1e5c
4	d515d6	530787	SQU ON	2015-11-21 0...	Incoming		tel 11	tel RS...				Conn Ref	53078755_411467a_3_FTT1@192.168.33...
3	d515d6	530787	PTT ON	2015-11-21 0...	Incoming		tel 11	tel RS...				Event Type	START RECORDING
10	d515d6	530787	PTT ON	2015-11-21 0...	Incoming		tel 11	tel RS...				Received Time	2014-05-27 03:58:10.772
9	d515d6	530787	PTT OFF	2015-11-21 0...								Direction	Incoming
12	c58867	530785	PTT OFF	2015-11-21 0...								Calling Number	tel 11
2	d515d6	530787	PTT OFF	2015-11-21 0...								Called Number	tel RS_SECOS
1	d515d6	530787	PTT ON	2015-11-21 0...	Incoming		tel 11	tel RS...				Call Ref	05599645-198bdd4-198bdc6-5377ccc7e...
7	d515d6	530787	PTT ON	2015-11-21 0...	Incoming		tel 11	tel RS...				Frequency	SECOS
12	c58867	530785	STOP	2014-05-27 0...									
11	c58867	530785	START	2014-05-27 0...	Incoming		tel 11	tel RS...					
10	d515d6	530787	START	2014-05-27 0...	Incoming								
9	d515d6	530787	STOP	2014-05-27 0...									
8	d515d6	530787	START	2014-05-27 0...	Incoming								
7	d515d6	530787	STOP	2014-05-27 0...									
6	d515d6	530787	STOP	2014-05-26 0...									
5	d515d6	530787	CRD	2014-05-26 0...									
4	d515d6	530787	CRD	2014-05-26 0...									
3	d515d6	530787	START	2014-05-26 0...	Incoming								
2	d515d6	530787	STOP	2014-05-26 0...									
1	d515d6	530787	START	2014-05-26 0...	Incoming								

## 2.2. VDS-II SIP

- Recording according to SIP standard, available for passive or active connection.
- Supports registration at SIP Registrar or SIP Proxy (SIP Active).
- Supports SIP over UDP and SIP over TCP. Static Routing Function to allocate communication sources to recording channels

## 2.3. VDS-II RTP

- Recording according to RTP standard, available for passive or active connection.
- Optional with VOX control. Supports Multicast registration (RTP Active).
- Supported Codecs: G.711, G.723, G.726, G.728, G.729, GSM, iLBC and TETRA

## 2.4. Others Proprietary VoIP protocols

- Alcatel
- Thales
- Siemens
- Unify
- Motorola
- Cisco
- Infocert NF399

**\*\*\* End of Document\*\*\***