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## Saab TransponderTech AB

Appendices

Project designation

**R5 RIC**

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**R5 RIC STT Video Protocol Specification**

Distribution



**Saab TransponderTech AB**

**DOCUMENT VALIDATION**

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**DOCUMENT CHANGE RECORD**

Issue	Change order	Date	Pages affected	Motive for and information on the change
A1		2016-09-06	All	New document
A2		2017-06-20		Minor updates



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## Saab TransponderTech AB

# 1 INTRODUCTION

R5 RIC (Radar interface card) is a Radar Extractor hardware and software solution that takes analogue radar video and converts it into digital video that is sent out on broadcast UDP.

This document describes a digital radar video data protocol (STT) for digitized data sent from the R5 RIC.



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## 2 STT PROTOCOL

The radar video data is communicated via UDP for maximum throughput. Depending on the network layout, one complete pulse may or may not fit within one UDP packet. The packet size and data type used is determined by the device settings.

### 2.1 Data types

Following data types are used in this protocol. The byte order is little-endian.

Data type	Description
Int8	8-bit signed integer. (1 byte)
UInt8	8-bit unsigned integer. (1 byte)
Int16	16-bit signed integer. (2 bytes)
UInt16	16-bit unsigned integer. (2 bytes)
UInt32	32-bit unsigned integer. (4 bytes)

### 2.2 Pulse Header

At the beginning of each package, a header is sent with the following layout:

Pulse Header		
Bytes	Data type	Contents
0	UInt8	Message type = 0 (new pulse) = 1 (continued pulse)
1	UInt8	Data type = 2 (Int16) (see below)
2-3	UInt16	Azimuth (value of ACP counter)
4-7	UInt32	Size in bytes of raw radar data
8-11	UInt32	Offset in bytes of raw radar data.

The value of the data type field is interpreted as:

Data Type Constants	
Data Type	Value
Int8	0
Int16	2

The rest of the UDP packet contains raw radar data in the given format from the offset and forward.