ST100 Starterkit   Product Information
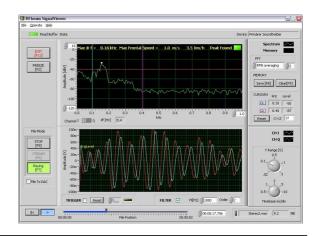
Features

- 16Bit Radar Data Acquisition System
- Displays and Logs Doppler Signals
- 2 Channel Acquisition (I and Q Signals)
- View in Frequency and Time Domain
- Realtime Logfile Playback to Screen
- Realtime Playback to Sensor System
- Works with all RFbeam Radar Modules
- Multifunctional Hard- and Software Bundle
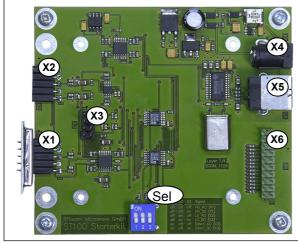- Contains an RFbeam K-LC1 Radar Module

Applications

- Evaluation and Optimisation of Short Range Radar Front-Ends
- On-Site Analysis of Real Signals
- Data Logging
- Playback of Real Signals into Sensor Systems
- Getting Doppler Radar Experience with "Learning by Doing"

Description

RFbeam ST100 Starterkit consists of a PCB motherboard, a K-LC1 radar module and a flexible acquisition software. ST100 hardware serves as "USB soundsystem" without the need of installing driver software. The system works with native radar modules as well as with modules containing IF amplifiers. Hardware is prepared for use with FMCW and FSK software, that will be available as separate software by RFbeam.

X1	**High Gain Input**
	For native radar modules without integrated IF
X2	**Low Gain Input**
	For radar modules with integrated IF amplifier
X3	**Direct IF Input**
	For modules with integrated high gain IF amplifier
X4	**9VDC (optional)**
	If ST100 is used without USB
X5	**USB-1 Interface**
	For use with RFbeam SignalViewer
X6	**Signal Testpoints**
	Connect multimeters and oscilloscope to view raw signals.
	Contains also analog outputs to playback recorded radar waveforms.
Sel	**Input Selector**
	Signals to be sent to RFbeam SignalViewer Software

ST100 Starterkit with RFbeam K-LC1 plugged into X1 connector

ST100 Starterkit

Functional Overview

RFbeam ST100 Starterkit hardware features 3 inputs (connectors X1 – X3) for different radar module types. The inputs differ in input sensitivity and in physical pin arrangement. Many RFbeam modules may directliy be connected and mounted to the Starterkit PCB.

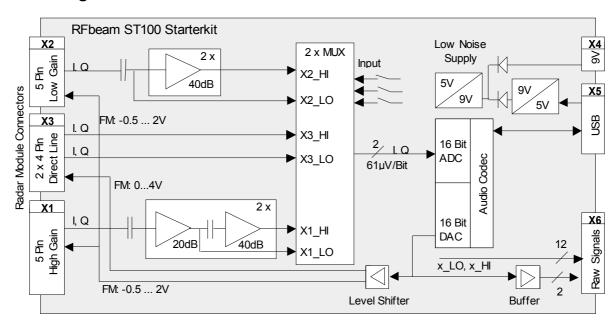All module connectors feature also an FM output.

Radar signals are converted by a 16Bit ADC and transmitted by a standard USB audio protocol.

A 16Bit DAC drives the FM inputs of the radar modules and is also driven by a standard USB audio protocol.

This DAC may also be used to play back recorded radar waveforms and feed them to your signal processing hardware. This is useful to simulate and analyse sensor behaviour with real world signals.

All important radar signals are available at connector X6. This allows signal analysis by standard measurement equipment like multimeter and oscilloscope.

Blockdiagram

Software Features

The **RFbeam SignalViewer** software is included in the Starterkit and features:

- FFT Power Spectrum Display from 5Hz to 20kHz
- Graphically Configurable Frequency and Peak Detection
- Time Domain Display (scope) with Trigger and Filter Functions
- Streaming to Standard 16Bit Audio Wave Files
- Realtime or Manual Controlled Playback Function

Additional Software (not included in Starterkit)
- On Request