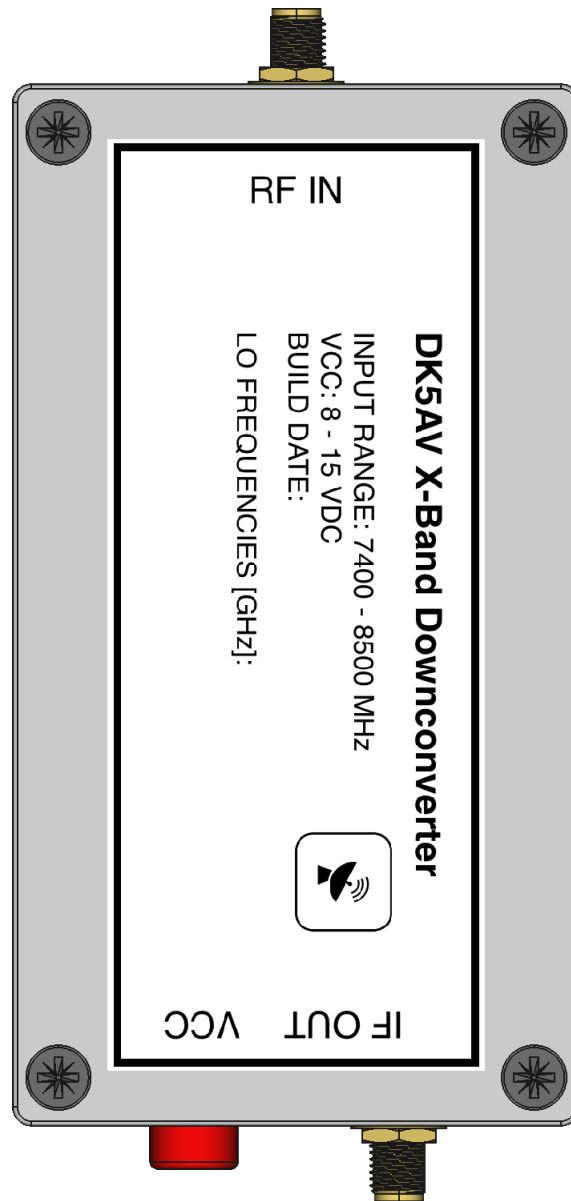


 DK5AV

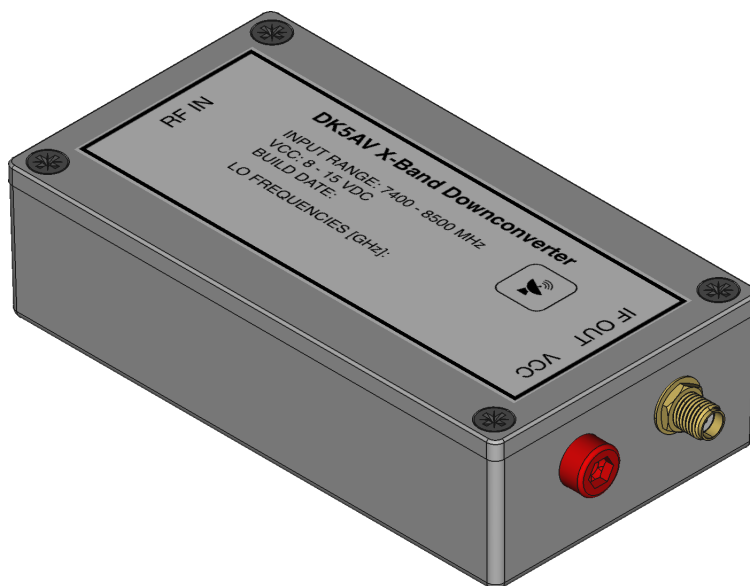
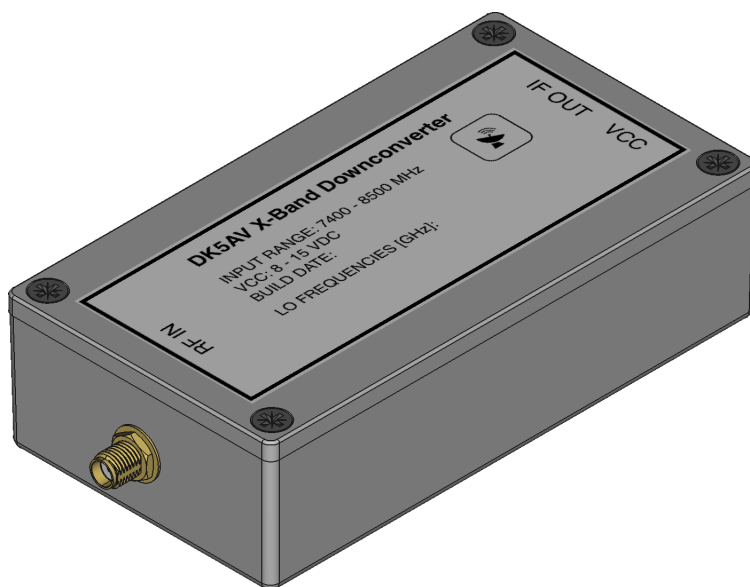
X-Band Downconverter Datasheet



General Description

The DK5AV/M0KDS X-Band Downconverter is well suited for the reception of weather and earth observation satellites in the 7700 MHz to 8500 MHz range. It contains a filtered input and a PLL-based downconverter circuit. The output of the mixer stage gets amplified to overcome short to medium lengths of coax runs.

Note: This Downconverter (LNC) requires an external LNA.



Specifications

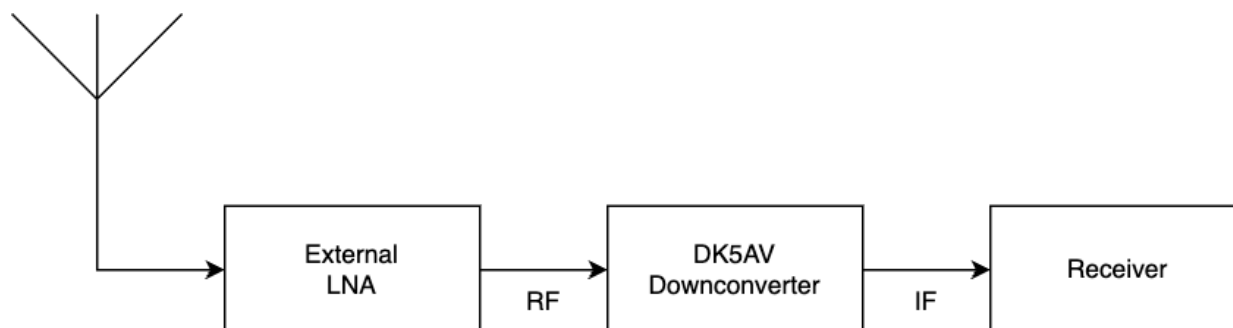
Dimensions [cm]	13 × 6 × 3
Input Frequency Range [MHz]	7500 – 8500 (filtered)
IF Frequency Range [MHz]	500 – 1500
Typ. Conversion Gain [dB]	10
Noise Figure [dB]	12
Supply Voltage [V]	8 – 15
Typ. Current [mA]	150
Bias-T Support	Optional
LO-Frequencies ^{*1}	4
Internal Oscillator [type] ^{*2}	TCXO (PLL)
RF Connectors [type]	SMA
Power Connector [type]	2mm Banana Socket

^{*1} pre-programmed frequencies, supported frequency range is 6500 MHz – 8400 MHz

^{*2} may also use an external reference instead (if required)

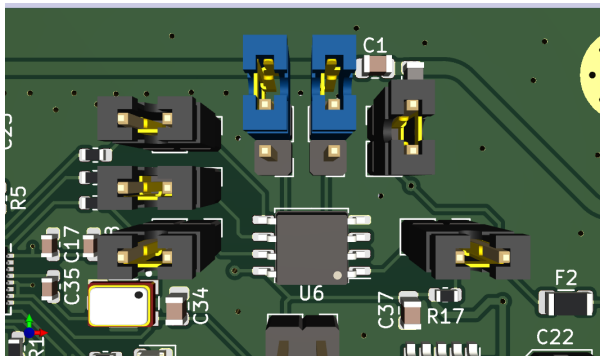
This downconverter does not feature a built-in X-Band amplifier. An **external LNA is required** for satellite reception. The recommended gain for external LNAs is between 30 and 40 dB with a noise figure lower than or equal to 1.5 dB.

Typical Application Diagram

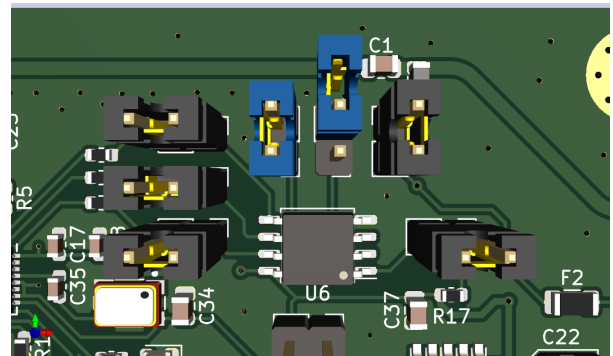


LO Configuration

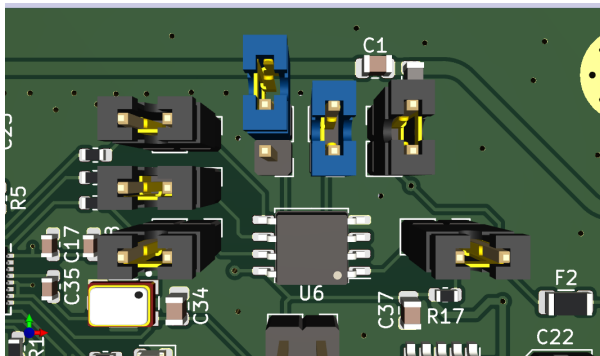
The DK5AV downconverter incorporates four distinct local oscillator frequencies, configurable through the manipulation of two jumpers positioned on the printed circuit board inside the unit. These jumpers can be identified by their blue color. Unless otherwise specified on the label of the downconverter, the default frequencies in their respective order are 6800 MHz, 7000 MHz, 7600 MHz and 8000 MHz. The jumpers can be found near the IF OUT SMA connector.



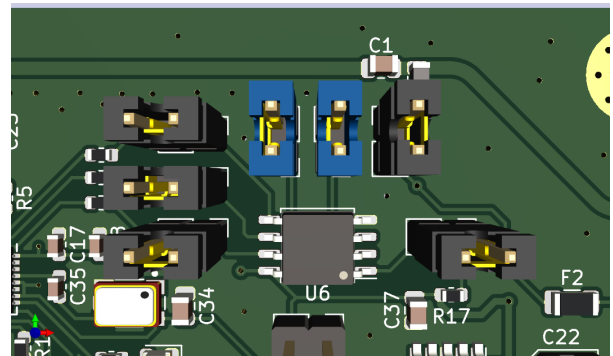
LO Frequency 1 [6800 MHz]



LO Frequency 2 [7000 MHz]



LO Frequency 3 [7600 MHz]



LO Frequency 4 [8000 MHz]