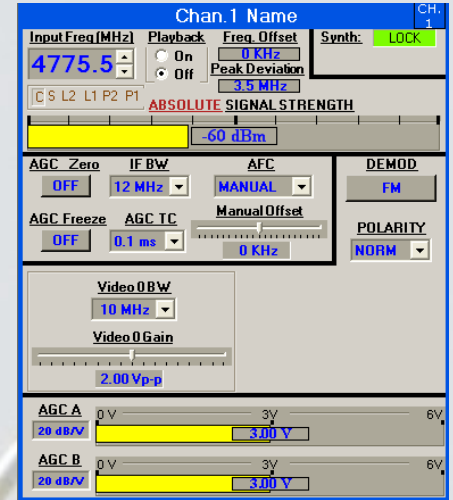


CDC100A C-BAND to C-IF DOWN-CONVERTER



Option R provides C-band tuning to existing SEMCO receivers using RCMS GUI.

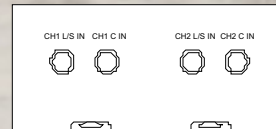
CDC100A Down-Converter - The SEMCO CDC100A Down-Converter is part of SEMCO's C-Band series that has been designed to meet the requirements of IRIG 106-11. The CDC100A accepts a C-Band input from 4400 to 5250 MHz and includes a notch filter that attenuates the signals from 4940 to 5090 MHz (which are not included in the IRIG standard). The input signals are mixed with an internal 5550 MHz Local Oscillator that complies with IRIG's Tier II requirements. The output is filtered to provide an inverted spectrum from 400 to 1150 MHz (C-IF Band). Available configurations include the CDC100A-2 dual channel down-converter and the CDC100A-4 quad channel down-converter.

Options

A CDC100A includes an input that accepts signals from 1415 to 2485 MHz. This input is summed with the C-IF band output allowing the CDC100A to be a complete solution for Tri-Band (L, S, and C) antenna down-conversion needs.

The CDC100AR is designed as an expansion chassis that is controlled by the existing RS422 communications used in all SEMCO receivers. This allows the receiver's RCMS Network Software and GUI to control the CDC100AR as if it was an additional installed device. In this configuration the CDC100AR will provide an output range of 1415-2485 MHz. The RCMS GUI will accept a C-band frequency input and will properly configure the receiver & the CD100AR to the proper frequencies. In this application, the CDC100AR operates like a virtual C-band tuner.

CDCM100 Block Converter - The CDCM100 Dual Channel Block-Converter is available in module packaging for installation in antenna pedestals. This unit is an inverting block converter with an input range of 4400-5150 MHz and an output of 400-1150 MHz. The CDCM100 also has L/S band summing ports to allow for 1415-2485 MHz on the same output line. The CDCM100 comes standard with notch filters at 4940-5090MHz.



Standard Configuration

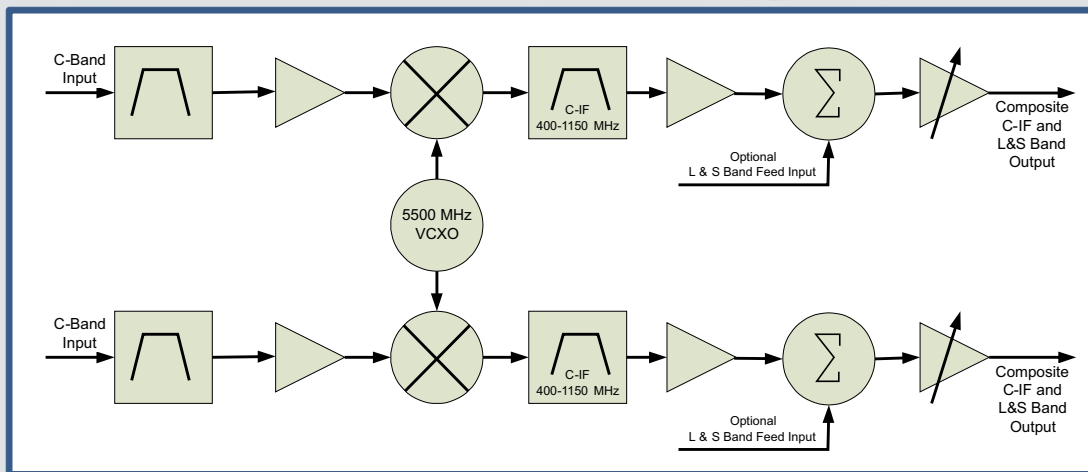
- 4400 - 5250 MHz* - C-Band Input
- 400 - 1150 MHz - C-IF Output

* 4940-5090 MHz not applicable per IRIG

Options

- Quad Channel Rack Mount Configuration
- 1415-2485 MHz Output
- 1415-2485 MHz Input
- CDCM100 Block Converter Module

CDC100A System Specifications



CDC100A-2 Block Diagram

PERFORMANCE

Conversion Input Frequency Range	4400 to 5250 MHZ *
Output Frequency	400-1150 MHZ, 1415-2485 MHZ (Option R)
Gain	0-20 dB Adjustable gain
Noise Figure	10 dB Max
Number of Channels	Two (four optional in rack mount configuration)
Rack Mount Tunable LO (Option R)	2750-2875 MHZ, GUI controlled
Block Converter Fixed LO	5550 MHZ
Phase Noise	IRIG 106-11 Tier II compliant
Input / Output Impedance	50 ohms
Input / Output VSWR	1.5:1 Maximum
Frequency Response	± 2.0 dB
Spurious Response	-50 dBm Minimum
Image Rejection	50 dB Minimum
Block Converter Notch Filter	4940-5090 MHZ, 30 dB nominal
Summing Input Frequency Range	1415-2485 MHZ (Not Available with Option R); User-Definable (Block Converter)

POWER REQUIREMENTS

90 to 265 VAC, 50-60 Hz, Auto-Ranging (Rack Mount); User-definable (Block Converter)

PHYSICAL

17"(W) x 1.75"(H) x 20"(D); 19" rack mount configuration; <15 lbs
 3.5" H x 8.5" W x 16.0" L plus mounting lugs in Block Converter configuration; <15 lbs.
 N-type connections

ENVIRONMENTAL

Operating Temperature	0 to +50 degrees C
Storage temperature	-20 to +70 degrees C
Humidity	Up to 95%, non-condensing
Operating Altitude	Up to 30,000'
EMI	Designed to meet MIL-STD 461

* 4940-5090 MHZ not applicable per IRIG

Contact the Factory for detailed specifications applicable to specific model number and configuration