

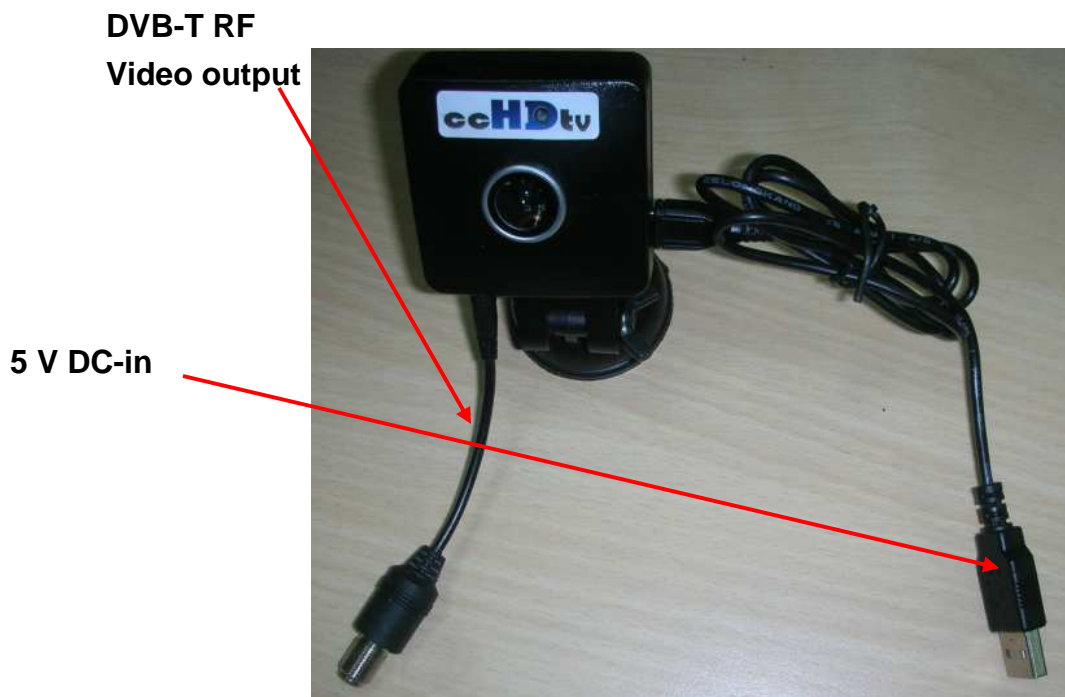
DC-101

Quick Installation Guide

PACKAGE CONTENTS	2
POWER ON	3
CONNECT TO A RECEIVER	4
CUSTOM CONFIGURATION	5
HOW TO CONFIGURE DC-101 DTV CAM	5
SAMPLE SETTINGS IN “DVBT_CONFIG”	5
TRANSMISSION PARAMETERS DESCRIPTION	6
THE CHANNEL DATA RATE MUST BE LARGER THAN THE VIDEO ENCODING BIT RATE.	7
TS AND VIDEO PARAMETERS DESCRIPTION	8

Package Contents

- DC-101 Camera and holder
- Micro USB connector power cable
- MCX to Female F connector



Power on



Connect the USB cable to PC/Notebook USB port.



Alternatively you may connect it to a 5V DC USB power adaptor or
Note: 5V DC USB power adaptor is not included in standard package.

Connect to a receiver



1. Connect the video RF output to a coaxial cable (or an antenna). A DVB-T receiver can be either DVB-T TV, DVB-T STB or DVB-T USB receiver dongle.
2. By default, the output RF power of DC-101 is about +5 dBm (113 dBuV) typically, and if it's wired connection instead of an antenna and the coaxial cable is shorter than 50 M, the power might be too high for the receiver. **In such a case, please set lower RF gain. Refer to the following instructions for custom configurations.**

Custom Configuration

How to configure DC-101 DTV CAM

When DC-101 DTV CAM is powered on, it will check the existence of the file “\System\ dvbt_config” on Micro SD card. If the file is found, it will update the system configurations according to the settings in the file.



Micro SD card slot

The following sections describe the file format in details.

Sample Settings in “dvbt_config”

Frequency : [803000]
Bandwidth : [6000]
Constellation : [0] //0:QPSK, 1:16QAM, 2:64QAM
CodeRate : [0] //0:1/2, 1:2/3, 2:3/4, 3:5/6, 4:7/8
GuardInterval : [3] //0:1/32, 1:1/16, 2:1/8, 3:1/4
FFT : [2] //2:2K, 8:8K
Gain : [6]
SIPSI_Table_Duration : [0]

Resolution : [3] //1:1280x720, 2:720x576 3:720x480

PTSPCR_Interval : [10]

VQ : [Middle]//High, Middle, Low

FlickerHz : [60]//50 or 60Hz

Transmission Parameters Description

Parameter	Description	Default
Frequency	ccHDtv DTVCAM frequency in KHz. Range: 50000KHz ~ 950000KHz	[177000]
Bandwidth	ccHDtv DTVCAM bandwidth in KHz. Options: 2000, 3000, 4000, 5000, 6000, 7000 and 8000KHz.	[6000]
Constellation	ccHDtv DTVCAM constellation options. 0: QPSK 1: 16QAM (In 16QAM mode, only CodeRate 2/3 , Guad Interval 1/4, and 2K FFT are supported)	[0]
CodeRate	ccHDtv DTVCAM code rate options. 0: 1/2 1: 2/3 2: 3/4 3: 5/6 4: 7/8 (In 16QAM mode, only CodeRate 2/3 is supported)	[4]
GuardInterval	ccHDtv DTVCAM guard interval options. 0:1/32 1:1/16 2:1/8 3:1/4 (In 16QAM mode, only Guad Interval 1/4 is supported)	[1]
FFT	ccHDtv DTVCAM FFT options. 2: 2K 8: 8K (In 16QAM mode, only 2K FFT is supported)	[2]
Gain	Software adjusts RF output gain.	[3]

Range: -25 ~ +5	
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The channel capacity (maximum data bit rate or throughput) varies depending on the transmission parameters.

The maximum data bit rate can be calculated as below.

Tbandwidth = {2000,000, 3000,000, 4000,000, 5,000,000,6,000,000, 7,000,000, 8,000,000} in Hz for 2~8MHz

Tcode_rate = {1/2, 2/3, 3/4, 5/6, 7/8}

TConstellation = {2, 4, 6} <- QPSK = 2, 16QAM=4, 64QAM = 6

TGuardInterval = {4/5, 8/9, 16/17, 32/33}, 1/4 = 4/5, 1/8 = 8/9, 1/16 => 16/17, 1/32 => 32/33}

2K/8K mode does not matter

Maximum bit rate = 1512 / 2048 * 188 / 204 * 64 / 56 * TBandwidth * Tcode_rate * TConstellation *

TGuardInterval (bps)

= 423 / 544 * TBandwidth * Tcode_rate * TConstellation * TGuardInterval (bps)

Refer to the table shown below.

The channel data rate MUST be larger than the video encoding bit rate.

BW	Guard Interval	Code Rate	QPSK TS bit rate	16-QAM TS bit rate	BW	Guard Interval	Code Rate	QPSK TS bit rate	16-QAM TS bit rate
5M	1 / 4	1 / 2	3110294	6220588	6M	1 / 4	1 / 2	3732353	7464706
5M	1 / 4	2 / 3	4147059	8294118	6M	1 / 4	2 / 3	4976471	9952941
5M	1 / 4	3 / 4	4665441	9330882	6M	1 / 4	3 / 4	5598529	11197059
5M	1 / 4	5 / 6	5183824	10367647	6M	1 / 4	5 / 6	6220588	12441176
5M	1 / 4	7 / 8	5443015	10886029	6M	1 / 4	7 / 8	6531618	13063235
5M	1 / 8	1 / 2	3455882	6911765	6M	1 / 8	1 / 2	4147059	8294118
5M	1 / 8	2 / 3	4607843	9215686	6M	1 / 8	2 / 3	5529412	11058824
5M	1 / 8	3 / 4	5183824	10367647	6M	1 / 8	3 / 4	6220588	12441176
5M	1 / 8	5 / 6	5759804	11519608	6M	1 / 8	5 / 6	6911765	13823529
5M	1 / 8	7 / 8	6047794	12095588	6M	1 / 8	7 / 8	7257353	14514706
5M	1 / 16	1 / 2	3659170	7318339	6M	1 / 16	1 / 2	4391003	8782007
5M	1 / 16	2 / 3	4878893	9757785	6M	1 / 16	2 / 3	5854671	11709343
5M	1 / 16	3 / 4	5488754	10977509	6M	1 / 16	3 / 4	6586505	13173010
5M	1 / 16	5 / 6	6098616	12197232	6M	1 / 16	5 / 6	7318339	14636678
5M	1 / 16	7 / 8	6403547	12807093	6M	1 / 16	7 / 8	7684256	15368512
5M	1 / 32	1 / 2	3770053	7540107	6M	1 / 32	1 / 2	4524064	9048128

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5M	1 / 32	2 / 3	5026738	10053476	6M	1 / 32	2 / 3	6032086	12064171
5M	1 / 32	3 / 4	5655080	11310160	6M	1 / 32	3 / 4	6786096	13572193
5M	1 / 32	5 / 6	6283422	12566845	6M	1 / 32	5 / 6	7540107	15080214
5M	1 / 32	7 / 8	6597594	13195187	6M	1 / 32	7 / 8	7917112	15834225
7M	1 / 4	1 / 2	4354412	8708824	8M	1 / 4	1 / 2	4976471	9952941
7M	1 / 4	2 / 3	5805882	11611765	8M	1 / 4	2 / 3	6635294	13270588
7M	1 / 4	3 / 4	6531618	13063235	8M	1 / 4	3 / 4	7464706	14929412
7M	1 / 4	5 / 6	7257353	14514706	8M	1 / 4	5 / 6	8294118	16588235
7M	1 / 4	7 / 8	7620221	15240441	8M	1 / 4	7 / 8	8708824	17417647
7M	1 / 8	1 / 2	4838235	9676471	8M	1 / 8	1 / 2	5529412	11058824
7M	1 / 8	2 / 3	6450980	12901961	8M	1 / 8	2 / 3	7372549	14745098
7M	1 / 8	3 / 4	7257353	14514706	8M	1 / 8	3 / 4	8294118	16588235
7M	1 / 8	5 / 6	8063725	16127451	8M	1 / 8	5 / 6	9215686	18431373
7M	1 / 8	7 / 8	8466912	16933824	8M	1 / 8	7 / 8	9676471	19352941
7M	1 / 16	1 / 2	5122837	10245675	8M	1 / 16	1 / 2	5854671	11709343
7M	1 / 16	2 / 3	6830450	13660900	8M	1 / 16	2 / 3	7806228	15612457
7M	1 / 16	3 / 4	7684256	15368512	8M	1 / 16	3 / 4	8782007	17564014
7M	1 / 16	5 / 6	8538062	17076125	8M	1 / 16	5 / 6	9757785	19515571
7M	1 / 16	7 / 8	8964965	17929931	8M	1 / 16	7 / 8	10245675	20491349
7M	1 / 32	1 / 2	5278075	10556150	8M	1 / 32	1 / 2	6032086	12064171
7M	1 / 32	2 / 3	7037433	14074866	8M	1 / 32	2 / 3	8042781	16085561
7M	1 / 32	3 / 4	7917112	15834225	8M	1 / 32	3 / 4	9048128	18096257
7M	1 / 32	5 / 6	8796791	17593583	8M	1 / 32	5 / 6	10053476	20106952
7M	1 / 32	7 / 8	9236631	18473262	8M	1 / 32	7 / 8	10556150	21112299

TS and Video Parameters Description

Parameter	Description	Default
SIPSI_Table_Duration	Duration in minutes. 0: SI/PSI table always be sent N: After N minutes, TS SI/PSI table will not be sent. And the TV system could only scan the DTVCAM channel in this	[0]

	period.	
Resolution	720P, 576P and 480P video resolutions are supported. 1: 1280x720 2: 720x576 3: 720x480	[1]
PTSPCR_Interval	Adjust TS PTS and PCR interval in frames. It is trade-off with video latency and video smooth.	[6]
VQ	Video quality with High, Middle and Low level. The video encoding bit rate is depended on the Resolution and VQ. HD 720P (1280x720) Video Encoding Bit Rate: High: 6.8M bps Middle: 4.8M bps Low: 2.8M bps SD 480P/576P (720x480/576) Video Encoding Bit Rate: High: 4.2M bps Middle: 3.2M bps Low: 2.2M bps	[High]