



ACORN FAQ



General Information

IP Addresses: acorn.uconn.edu (Recommended)*

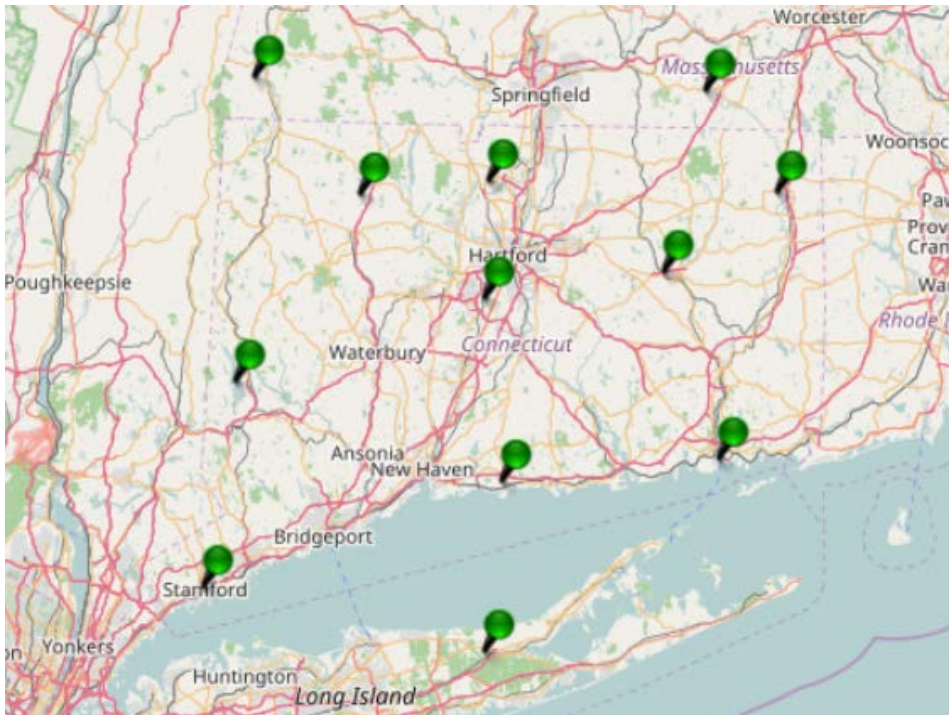
- 137.99.30.136 (Server 1 of 4)
- 137.99.30.137 (Server 2 of 4)
- 137.99.30.138 (Server 3 of 4)
- 137.99.30.139 (Server 4 of 4)

Port #: 2101

*Connecting to ACORN via the acorn.uconn.edu URL is highly recommended as the data collector will be automatically entered into ACORN's "round robin" system which distributes users to 1 of the 4 identical servers for load balancing purposes. Users may also opt to hardwire into a specific server by directly entering the IP address.

Sensor Map

Green pins represent existing ACORN CORS



CORS ID	Location
CTBR	Brookfield, CT
CTDA	Darien, CT
CTEG	East Granby, CT
CTGR	Groton, CT
CTGU	Guilford, CT
CTMA	Mansfield, CT
CTNE	Newington, CT
CTPU	Putnam, CT
CTWI	Winchester, CT
MASB	Sturbridge, MA
MASH	Sheffield, MA
NYRH	Riverhead, NY

CORS information can be found at <http://www.ngs.noaa.gov/CORS/> by entering the 4-character station ID. FAQ page 2 is a listing of current ACORN mount points. FAQ page 3 provides coordinates.

Mount Types (4)

- DGPS
- RTO Single Station
- RTO Multi Station*
- RTO VRS

* Not RTO with multiple bases. This directs ACORN to pick the closest base.

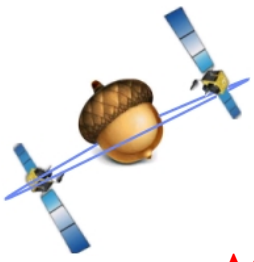
Communication Protocols (3)

Format	Description	Bytes*
CMR+	Compact Measurement Record, also known as CMRp and CMR plus Note: CMR+ includes GLONASS messages. Disable GLONASS for standard CMR	12,000
CMRx	Trimble proprietary, uses orbit information to further compress data	5,500
RTCM_31	Radio Technical Commission for Maritime Services version 3.1	12,600

* Bytes based upon 1 minute of data, Single Station (no PBS, no VRS residuals), 11 satellites, Position and antenna every 8 epochs (or trickled over 8 epochs with CMR+/CMRx)

OTHER TIPS

- ACORN uses Absolute Phase Center Variations (PCV) – do not mix Absolute and Relative!
- Security Profile: N/A – your security settings connect the receiver to wifi, not to ACORN
- Static observations are supported by ACORN – put it on the tripod and hit the button
- Contact the administrator if you need to change your password. Do not change it on your own in the web interface because the change will only be effected on one of the four servers.

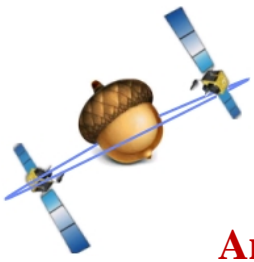


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ACORN Real Time Output (RTO) Mount Points

Mount Point ID	Base Station	Communication Protocol	Antenna Type
BR3	Brookfield, CT	RTCM v 3.1	Trimble Zephyr Geodetic Model 2 TRM57971.00 (no radome)
BRP		CMR+	
BRX		CMRx	
DA3	Darien, CT	RTCM v 3.1	Trimble Zephyr Geodetic Model 2 TRM57971.00 (no radome)
DAP		CMR+	
DAX		CMRx	
EG3	East Granby, CT	RTCM v 3.1	Trimble Zephyr Geodetic Model 2 TRM57971.00 (no radome)
EGP		CMR+	
EGX		CMRx	
GR3	Groton, CT	RTCM v 3.1	Trimble Zephyr Geodetic Model 2 TRM57971.00 (no radome)
GRP		CMR+	
GRX		CMRx	
GU3	Guilford, CT	RTCM v 3.1	Trimble Zephyr Geodetic Model 2 TRM57971.00 (no radome)
GUP		CMR+	
GUX		CMRx	
MA3	Mansfield, CT	RTCM v 3.1	Trimble Zephyr Geodetic Model 2 TRM57971.00 (no radome)
MAP		CMR+	
MAX		CMRx	
NE3	Newington, CT	RTCM v 3.1	Trimble Zephyr Geodetic Model 2 TRM57971.00 (no radome)
NEP		CMR+	
NEX		CMRx	
PU3	Putnam, CT	RTCM v 3.1	Trimble Zephyr Geodetic Model 2 TRM57971.00 (no radome)
PUP		CMR+	
PUX		CMRx	
RH3	Riverhead, NY	RTCM v 3.1	Leica LEIAR10 (no radome)
RHP		CMR+	
RHX		CMRx	
SB3	Sturbridge, MA	RTCM v 3.1	Leica LEIAX1203 + GNSS (no radome)
SBP		CMR+	
SBX		CMRx	
SH3	Sheffield, MA	RTCM v 3.1	Leica LEIAX1203 + GNSS (no radome)
SHP		CMR+	
SHX		CMRx	
WI3	Winchester, CT	RTCM v 3.1	Trimble Zephyr Geodetic Model 2 TRM57971.00 (no radome)
WIP		CMR+	
WIX		CMRx	



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Antenna Reference Point (ARP) Coordinates

ACORN's Default Reference Frame: **NAD 83 (2011)** – Note: Set (localize) data collector for other coord systems or assumed values. Ensure that the latest geoid model is uploaded to the data collector for elevations in NAVD 88: **Geoid 18**

NAD 83 (2011) Position (Epoch 2010.0)

Transformed from IGS 08 (epoch 2005.0) position in August, 2011

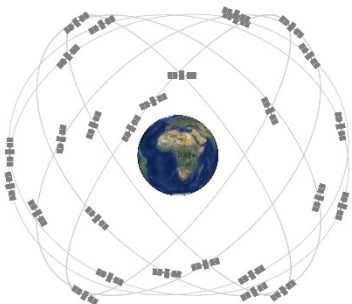
	CTBR	CTDA	CTEG	CTGR	CTGU	CTMA	CTNE	CTPU	CTWI
X (m)	1,365,337.625	1,367,174.637	1,413,426.602	1,478,107.650	1,429,797.592	1,456,379.713	1,417,685.850	1,477,964.650	1,384,616.125
Y (m)	-4,585,265.961	-4,617,636.820	-4,537,671.200	-4,562,614.124	-4,581,509.826	-4,539,030.849	-4,555,729.710	-4,518,936.771	-4,548,662.498
Z (m)	4,203,973.386	4,167,931.100	4,239,299.936	4,190,441.881	4,186,611.855	4,223,420.353	4,218,615.605	4,237,355.688	4,237,285.513
Lat (N)	41° 29' 49"86428	41° 03' 57"06968	41° 55' 24"34701	41° 20' 07"03552	41° 17' 21"74228	41° 43' 52"91678	41° 40' 24"71719	41° 53' 58"88857	41° 53' 51"90745
Long (W)	073° 25' 05"67392	073° 30' 25"94233	072° 41' 55"88092	072° 02' 58"96932	072° 40' 04"44433	072° 12' 38"87734	072° 42' 52"25225	071° 53' 20"88967	073° 04' 10"96846
Height (m)	53.320	-13.266	30.293	-18.342	-18.107	55.191	41.746	57.109	192.097

NAD 83 (2011) Velocity (m/yr)

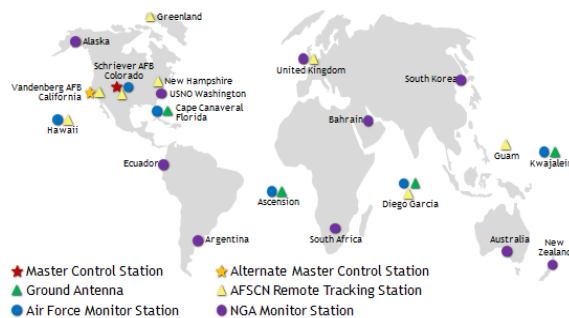
Transformed from IGS 08 velocity in August, 2011

	CTBR	CTDA	CTEG	CTGR	CTGU	CTMA	CTNE	CTPU	CTWI
VX	0.0023	0.0014	0.0019	0.0018	0.0017	0.0019	0.0017	0.0018	0.0016
VY	-0.0008	0.0012	0.0005	0.0006	0.0008	0.0001	0.0009	0.0002	0.0002
VZ	-0.0012	-0.0029	-0.0022	-0.0021	-0.0022	-0.0023	-0.0024	-0.0020	-0.0027
Northward	-0.0018	-0.0017	-0.0017	-0.0016	-0.0015	-0.0020	-0.0016	-0.0017	-0.0022
Eastward	0.0020	0.0017	0.0020	0.0019	0.0019	0.0018	0.0019	0.0018	0.0016
Upward	0.0003	-0.0025	-0.0014	-0.0014	-0.0016	-0.0012	-0.0019	-0.0011	-0.0016

Space Segment



Control Segment



User Segment





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ALOHA (A List of Helpful Acronyms)

CMR	Compact Measurement Record	PPE	Post-Processing Engine
CORS	Continuously Operating Reference Station	RDA	Raw Data Analysis
DAT	Data File Type	RDS	Radio Data System
DCB	Differential Code Bias	RINEX	Receiver Independent Exchange Format
DGPS	Differential GPS	RTCM	Radio Technical Commission for Maritime Services
DW	Disk Watch	RTK	Real-Time Kinematic
GLONASS	Global Navigation Satellite System (in Russian)	RTO	Real-Time Output
GNSS	Global Navigation Satellite System	SNR	Signal-to-Noise Ratio
GPS	Global Positioning System	SP3	Standard Product #3 (by NGS)
HTML	HyperText Markup Language	SQL	Search and Query Language
HTTP	Hyper Text Transfer Protocol	TAC	Trimble Accounting
HTTPS	Hyper Text Transfer Protocol Secure	TEC	Total Electron Count
IGS	International Geodetic Survey	TIM	Trimble Integrity Monitoring
IP	Internet Protocol	TMC	Trimble Mobile Communication
IPV	Internet Protocol Version	TNC	Trimble Ntrip Caster
IPWV	Integrated Precipitable Water Vapor	TNP	Trimble Network Processor
JPL	Jet Propulsion Laboratory	TPP	Trimble Pivot Platform
KML	Keyhole Markup Language	TPPDB	Trimble Pivot Platform DataBase
NGS	National Geodetic Survey	TSA	Trimble Service Administrator
NMEA	National Maritime and Electronics Association	TSC	Trimble Survey Controller
NPR	Network Processor	URL	Uniform Resource Locator
NTRIP	Networked Transport of RTCM via Internet Protocol	VPN	Virtual Private Network
ORB	Orbit File Type	VRS	Virtual Reference Station
PIVOT	Progressive Infrastructure Via Overlaid Technology	XML	EXtensible Markup Language

