

U-Blox Data Log Setup

Dinesh Manandhar

Center for Spatial Information Science

The University of Tokyo

Contact Information: dinesh@iis.u-tokyo.ac.jp

Connect receiver by selecting COM port

Select COM Port

Select Speed 115200

COM17 - u-center 8.26 - [Messages - UBX - CFG (Config) - GNSS (GNSS Config)]

File Edit View Player Receiver Tools Window Help

UBX - CFG (Config) - GNSS (GNSS Config)

ID	GNSS	Configure	Enable	min	max	Signals
0	GPS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8	16	<input checked="" type="checkbox"/> L1C/A
1	SBAS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	3	<input checked="" type="checkbox"/> L1C/A
2	Galileo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4	8	<input checked="" type="checkbox"/> E1
3	BeiDou	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8	16	<input checked="" type="checkbox"/> B1
4	IMES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	8	<input checked="" type="checkbox"/> L1C/A
5	QZSS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	3	<input checked="" type="checkbox"/> L1C/A
6	GLONASS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8	14	<input checked="" type="checkbox"/> L1OF
7	IRNSS	<input type="checkbox"/>	<input type="checkbox"/>			

Number of channels available: 32
Number of channels to use: 32 Auto set

For specific SBAS configuration use

Ready

u-blox M COM17 9600 No file open NMEA/00:05 02:01

If COM port is open properly,
You will see Green color flashing

COM3 - u-center 8.18 - [Messages - UBX - CFG (Config) - GNSS (GNSS Config)]

File Edit View Player Receiver Tools Window Help

NMEA
UBX
ACK (Acknowledge)
AID (GPS Aiding)
CFG (Config)
ANT (Antenna Settings)
CFG (Configuration)
DAT (Datum)
DOSC (Disciplined Oscillator)
EKF (EKF Settings)
ESFGWT (Gyro+Wheeltick)
ESRC (External Source Config)
FXN (Fix Now Mode)
GNSS (GNSS Config)
INF (Inf Messages)
ITFM (Jamming/Interference Monitor)
LOGFILTER (Log Settings)
MSG (Messages)
NAV5 (Navigation 5)
NAVX5 (Navigation Expert 5)
NMEA (NMEA Protocol)
ODO (Odometer/Low-Speed COG filter)
PM (Power Management)
PM2 (Extended Power Management)
PRT (Ports)
PWR (Power)
RATE (Rates)
RINV (Remote Inventory)
RST (Reset)
RXM (Receiver Manager)
SBAS (SBAS Settings)
SMGR (Sync Manager Config)
TMODE (Time Mode)
TMODE2 (Time Mode 2)

UBX - CFG (Config) - GNSS (GNSS Config)

GNSS ID	configure	GNSS name	enable	min	max	Signals
0	<input checked="" type="checkbox"/>	GPS	<input checked="" type="checkbox"/>	8	16	
1	<input checked="" type="checkbox"/>	SBAS	<input checked="" type="checkbox"/>	1	3	
2	<input type="checkbox"/>	Galileo	<input type="checkbox"/>	0	0	
3	<input checked="" type="checkbox"/>	BeiDou	<input checked="" type="checkbox"/>	8	16	
4	<input checked="" type="checkbox"/>	IMES	<input type="checkbox"/>	0	8	
5	<input checked="" type="checkbox"/>	QZSS	<input checked="" type="checkbox"/>	1	3	
6	<input checked="" type="checkbox"/>	GLONASS	<input type="checkbox"/>	8	14	
7		IRNSS				

Number of channels available: 32
Number of channels to use: 32 Auto set
For specific SBAS configuration use CFG-SBAS
For specific GLONASS configuration use CFG-GLONASS

Enable QZSS & L1SAIF

Enable either Beidou or Glonass. Both systems can't be enabled at the same time.

Ready

COM3-u-blox M8 No file open UBX 00:10:24 04:54:55

Search the web and Windows

ENG 1:54 PM
INTL 1/10/2016

COM3 - u-center 8.18 - [Messages - UBX - RXM (Receiver Manager) - RAWX (Multi-GNSS Raw Measurement Data)]

File Edit View Player Receiver Tools Window Help

EKFSTATUS (Status)
ODO (Odometer)
ORB (Orbit Info)
POSECEF (Position ECEF)
POSLLH (Geodetic Position)
PVT (Navigation PVT Solution)
RESETODO (Reset Odometer)
SAT (Satellite Information)
SBAS (SBAS Status)
SOL (Navigation Solution)
STATUS (Navigation Status)
SVINFO (SV Information)
TIMEBDS (BDS Time)
TIMEGLO (GLO Time)
TIMEGPS (GPS Time)
TIMEUTC (UTC Time)
VELECEF (Velocity ECEF)
VELNED (Velocity WGS84)

RXM (Receiver Manager)
ALM (Almanac)
EPH (Ephemeris)
PMREQ (Power Mode Request)
RAW (Raw Measurement Data)
RAWX (Multi-GNSS Raw Measurement Data)
SFRB (Subframe Data)
SFRBX (Subframe Data NG)
SVSI (SV Status Info)
TIM (Timing)
UPD (Firmware Update Messages)
??-?? (Unknown)
??-?? (Custom)
UNKNOWN
CUSTOM

UBX - RXM (Receiver Manager) - RAWX (Multi-GNSS Raw Measurement Data)

Local Time 1879.18340.000000000 [s]
Leap seconds 17 (VALID) [s] Clock reset

SV	Sig...	G	Pseudo R...	Carrier Pha...	Dop...	Loc...	S.	PR...	CP...	DO...	P.	C...	H...
G13	L1CA	-	21866446.00	114908958.34	-1537.2	64500	45	0.32	0.004	0.128	Y	Y	Y
G20	L1CA	-	20164563.29	105965503.74	-267.5	64500	43	0.32	0.004	0.128	Y	Y	Y
G24	L1CA	-	20895121.89	109804604.66	2311.9	64500	46	0.32	0.004	0.128	Y	Y	Y
G18	L1CA	-	23028434.54	121015223.10	3227.6	4320	24	2.56	0.023	0.512	Y	Y	N
Q01	L1CA	-	37643705.39	197819000.49	947.4	64500	45	0.32	0.004	0.128	Y	Y	Y
G28	L1CA	-	24393452.53	128188487.02	-452.8	64500	39	0.32	0.004	0.128	Y	Y	Y
B07	B1D1	-	38361221.03	199756941.67	1611.4	64500	41	0.32	0.004	0.128	Y	Y	Y
B10	B1D1	-	40729445.15	212088958.42	1651.1	64500	44	0.32	0.004	0.128	Y	Y	Y
G15	L1CA	-	20651887.71	108526371.00	287.1	64500	42	0.32	0.004	0.128	Y	Y	Y
B01	B1D2	-	37463069.21	195080048.66	393.2	64500	39	0.32	0.004	0.128	Y	Y	Y
B03	B1D2	-	38220823.14	199025854.22	369.6	64500	36	0.64	0.004	0.256	Y	Y	Y
B06	B1D1	-	36268397.28	188859098.43	811.4	41100	27	1.28	0.012	0.256	Y	Y	Y
G21	L1CA	-	22859001.39	120124862.31	823.0	0	21	20.48	-	8.192	Y	N	N
S137	L1CA	-	37278429.74	195899467.17	367.0	64500	42	0.32	0.004	0.128	Y	Y	Y
S128	L1CA	-	39826787.70	209291176.84	373.3	64500	40	0.32	0.004	0.128	Y	Y	Y
G12	L1CA	-	25108078.56	131943748.92	3843.8	11800	28	0.64	0.012	0.256	Y	Y	Y
S129	L1CA	-	37378427.10	195899444.81	366.8	64500	41	0.32	0.004	0.128	Y	Y	Y
G05	L1CA	-	23150253.89	121655418.08	-2569.8	22040	30	2.56	0.012	1.024	Y	Y	Y
B02	B1D2	-	40125144.86	208942158.58	353.1	0	28	5.12	-	4.096	Y	N	N
B08	B1D1	-	41634571.87	216802025.14	-1340.4	64500	41	0.32	0.004	0.128	Y	Y	Y
G10	L1CA	-	25818085.89	135674805.26	3792.2	56180	28	1.28	0.012	0.256	Y	Y	Y

Select RAWX

This logs raw data for each visible satellite like:
Pseudorange
CarrierPhase
Doppler
SNR (C/No) etc

COM3u-blox M8 No file open UBX 00:20:53 05:05:24

ENG 2:05 PM
INTL 1/10/2016

COM3 - u-center 8.18 - [Messages - UBX - RXM (Receiver Manager) - SFRBX (Subframe Data NG)]

File Edit View Player Receiver Tools Window Help

Port Baudrate Network connection Autobauding Debug Messages Generation Protocol Filter Action

Hotstart Warmstart Coldstart Save Config Load Config Revert Config

UBX - RXM (Receiver Manager) - SFRBX (Subframe Data NG)

denotes data received on subChn Strip Parity Bits

C.	SV	MSG	DATA (* denotes invalid words)
0	SBAS 129 L1CA	0 63	53FC0000 00000000 00000000 00000000 00000000 00000000 01803
1	SBAS 137 L1CA	0 25	53665A07 ABFE0234 000403FD 00126080 00000000 00000000 1E2A8
2	SBAS 128 L1CA	0 63	53FC0000 00000000 00000000 00000000 00000000 00000000 01803
3	GPS 13 L1CA	0 5/7/1	22C3571C 018B0D84 11D27772 89043476 BF598036 A84347FF 2271E2C5 A4B77
4	GPS 20 L1CA	0 5/7/1	22C3571C 018B0D84 11D27772 8E44331D BF57C00C 28434678 22702317 24B79
5	GPS 24 L1CA	0 5/7/1	22C3571C 018B0D84 11D27772 89043476 BF598036 A84347FF 2271E2C5 A4B77
6	GPS 5 L1CA	0 2	22C3571C 018AAA44 11C0E290 0E609FF1 AFE20BE3 00C2008F 15F84787 02D62
7	QZSS 1 L1CA	0 5/2/0	22C00012 818B05B4 009F3FF9 890007B1 BF5403F5 A843500A 81D4ECE6 A9B60
8	GPS 28 L1CA	0 5/7/1	22C3571C 018B0D84 11D27772 89043476 BF598036 A84347FF 2271E2C5 A4B77
9	BDS 7 B1D1	0 2	38902041 27E01D81 3F460331 3633167D 2370085B 0C01671B 09E5CE7E 28AC4
10	BDS 10 B1D1	0 2	38902041 27E02486 1146FBCC 25369E7E 080007F9 1CD44248 0BC69ECE 09864
11	GPS 18 L1CA	0 4/27/1	22C3571C 01890C44 16C626FF 090477BA BF4C8013 28432873 377EDA2B 023A7
12	GPS 15 L1CA	0 5/7/1	22C3571C 018B0D84 11D27772 8E44331D BF57C00C 28434678 22702317 24B79
13	BDS 1 B1D2	0 3	3890304E 2805E065 003C0099 0777772A 1DDDDDE 3777776A 1DDE00D4 03C00
14	BDS 3 B1D2	0 3	3890304E 2805E065 003C0099 0777772A 1DDDDDE 3777776A 1DDE00D4 03C00
15	GPS 5 L1CA	0 2	22C3571C 016F2AE8 11C0E290 0E609FF1 AFE20BE3 00C2008F 15F84787 02D62
16			
17	GPS 21 L1CA	0 3	22C3571C 01884BE0 003741EC 396332BC 0042C996 88320474 03C76D22 B53AF
18	GPS 21 L1CA	0 4/25/1	22C3571C 01688CD0 164A2554 0E45DD4D BF53C034 28430ECA ACDDC754 07111
19			
20	GPS 12 L1CA	0 5/7/1	22C3571C 018B0D84 11D27772 89043476 BF598036 A84347FF 2271E2C5 A4B77
21	BDS 6 B1D1	0 3	3890304E 2708469D 144D13B6 1A5CFFBD 3F3FFF1F 0BC1FFCB 15E07CBF 27FA2
22	BDS 9 B1D1	0 2	38902041 22405D56 2300CD4D 3AC59522 2EC00719 0010E56C 00085032 3B230
23	GPS 18 L1CA	0 5/16/1	22C3571C 01810D88 14112D88 0907D776 BF53803A A84349DC 2D911AF6 83364
24	BDS 14 B1D1	0 2	38902041 2768BEE0 3301DC94 0AF2A3CC 0E2403AC 19DAA730 02599197 039F0
25	GPS 10 L1CA	0 3	22C3571C 01898B9C 3FF74CE4 15F2E744 3FFF09FC 04D4805C 083D21F3 0DA11
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			

Save current receiver configuration

COM3u-blox M8 No file open UBX 00:31:13 05:15:44

Search the web and Windows

ENG 2:15 PM
INTL 1/10/2016

After setting all the parameters, save it to EPROM by selecting RECEIVER-> ACTION -> SAVE CONFIG

COM3 - u-center 8.18 - [Messages - UBX - RXM (Receiver Manager) - SFRBX (Subframe Data NG)]

File Edit View Player Receiver Tools Window Help

UBX-RXM (Receiver Manager) - SFRBX (Subframe Data NG)

denotes data received on subChn Strip Parity Bits

C.	SV	MSG	DATA (* denotes invalid words)
0	SBAS 129 L1CA	0 2	9A091FFD FFDFFC00 DFFDFDFD FDFFC0B9 FFFFF800 9FFFBBDB BBBAFAS
1	SBAS 137 L1CA	0 2	9A091FFD FFDFFC00 DFFDFDFD FDFFC0BD FFFFF800 9FFFBBDB BBBAFAS
2	SBAS 128 L1CA	0 2	9A089FFD FFDFFC00 DFFDFDFD FFFA5FFF FF5FFDFD DFFFBBBF BBBB97E
3	GPS 13 L1CA	0 5/16/1	22C3571C 0190ADAC 14112D88 0907D776 BF53803A A84349DC 2D911AF
4	GPS 20 L1CA	0 5/16/1	22C3571C 0190ADAC 141130D7 0E47D804 3F55C018 28434B46 AD8F4F8
5	GPS 24 L1CA	0 5/16/1	22C3571C 0190ADAC 14112D88 0907D776 BF53803A A84349DC 2D911AF
6	GPS 5 L1CA	0 5/16/1	22C3571C 0190ADAC 14112D88 0907D776 BF53803A A84349DC 2D911AF
7	QZSS 1 L1CA	0 4/1/3	22C00012 81908414 305E06C8 08339658 3FC20058 32BA8259 8A5024E
8	GPS 28 L1CA	0 5/16/1	22C3571C 0190ADAC 14112D88 0907D776 BF53803A A84349DC 2D911AF
9	BDS 7 B1D1	0 2	38902041 2C181DD1 3F460331 3633167D 2370085B 0C01671B 09E5CE7
10	BDS 10 B1D1	0 2	38902041 2C1824D6 1146FBCC 25369E7E 080007F9 1CD44248 0BC69EC
11	GPS 18 L1CA	0 4/27/1	22C3571C 01890C44 16C626FF 090477BA BF4C8013 28432873 377EDA2
12	GPS 15 L1CA	0 5/16/1	22C3571C 0190ADAC 141130D7 0E47D804 3F55C018 28434B46 AD8F4F8
13	BDS 1 B1D2	0 1	38901043 2C3DB518 1D8BB205 2EA53862 3C00555D 1555554B 1555554
14	BDS 3 B1D2	0 1	38901043 2C3DBA1A 22247227 2EC96121 040155E2 1555554B 1555554
15	GPS 5 L1CA	0 2	22C3571C 016F2AE8 11C0E290 0E609FF1 AFE20BE3 00C2008F 15F8478
16			
17	GPS 21 L1CA	0 5/16/1	22C3571C 0190ADAC 141130D7 0E47D804 3F55C018 28434B46 AD8F4F8
18	GPS 21 L1CA	0 4/25/1	22C3571C 01688CD0 164A2554 0E45DD4D BF53C034 28430ECA ACDDC75
19			
20	GPS 12 L1CA	0 5/16/1	22C3571C 0190ADAC 14112D88 0907D776 BF53803A A84349DC 2D911AF
21	BDS 8 B1D1	0 4/16	38904045 2BD04037 00000000 00000000 00000000 00000000 0000000
22	BDS 9 B1D1	0 3	3890304E 296046BD 144D84B4 142FFFCF 3787FF2F 0CCDFFC2 3C4064E
23	GPS 18 L1CA	0 5/16/1	22C3571C 01810D88 14112D88 0907D776 BF53803A A84349DC 2D911AF
24	BDS 14 B1D1	0 4/16	38904045 2BD04037 00000000 00000000 00000000 00000000 0000000
25	GPS 10 L1CA	0 1	22C3571C 018EE93C 35740024 1DA386E9 9CB3B2BF 1335FD90 3B8381E
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			

NAV5 (Navigation 5)
NAVX5 (Navigation Expert 5)
NMEA (NMEA Protocol)
ODO (Odometer/Low Speed COG filter)
PM (Power Management)
PM2 (Extended Power Management)
PRT (Ports)
PWR (Power)
RATE (Rates)
RINV (Remote Inventory)
RST (Reset)
RXM (Receiver Manager)
SBAS (SBAS Settings)
SMGR (Sync Manager Config)
TMODE (Time Mode)
TMODE2 (Time Mode 2)
TP (Timepulse)
TP5 (Timepulse 5)
TXSLOT (Tx Time Slots)
USB (Universal Serial Bus)

ESF (External Sensor Fusion)
INF (Information)
LOG (Data Logger)
MGA (Multiple GNSS Assistance)
MON (Monitor)
NAV (Navigation)
AOPSTATUS (AssistNow Autonomous S
CLOCK (Clock Status)
DGPS (DGPS Data)
DOP (Dilution of Precision)
EKFSTATUS (Status)
ODO (Odometer)
ORB (Orbit Info)

After setting all the parameters, save the output by selecting FILE-> SAVE or by clicking RED Record circle.

COM3u-blox M8 No file open UBX 00:35:42 05:20:13

Ready Search the web and Windows

ENG 2:20 PM
INTL 1/10/2016