



Application Note

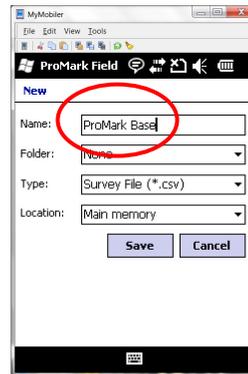
October 27, 2011

ProMark 200 Base providing serial data to
NTRIP Server Software that is relaying the data to an
NTRIP Caster on a ProFlex 500 via the Internet

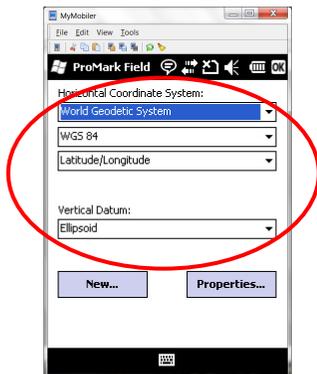
This application note is aimed at a very specific configuration. However, with a few adaptations, this document can assist in other configurations as well. For instance, FAST Survey can be used to set up the base as can \$PASH commands for those familiar with their use. RTCM 3.x is selected as the output messaging, but RTCM 2..x, CMR and ATM formats can also be used. In this particular configuration, a stream of data is being directed to an NTRIP caster that is embedded in a ProFlex 500. But the stream could equally be directed to commercial or other NTRIP caster installations. The PC software chosen to relay the information, NTRIP Server was chosen because it is open source, well known and not complex. But many other software choices exist for these relays including GNSS centric and commercial offerings. This note assumes that all necessary receiver options are enabled for the configuration being used. Every keystroke and menu choice has NOT been included in this note. The user should check all other configuration choices that could affect results such as antenna modeling and data recording options.

CONFIGURATION OF PROMARK 200 AND PROMARK FIELD SOFTWARE

- 1) ProMark 200 shall be up to date with the latest firmware
- 2) ProMark 200 shall have the most current version of ProMark Field installed
- 3) ProMark 200 shall be on its cradle
 - a. Power should be connected as indicated by LED near the ON/OFF button
 - b. Unit shall be turned ON
 - c. Standard DB-9 serial cable shall be connected between the cradle and a computer
- 4) Open ProMark Field
- 5) Create new job



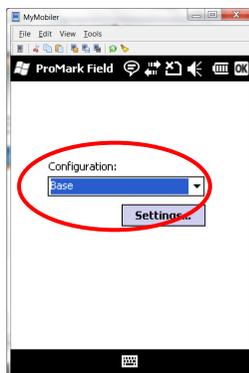
- 6) Select datum



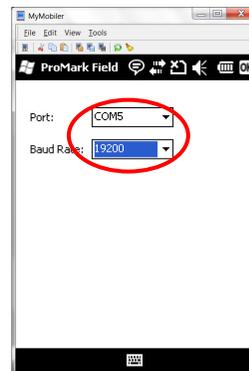
- 7) Configure job



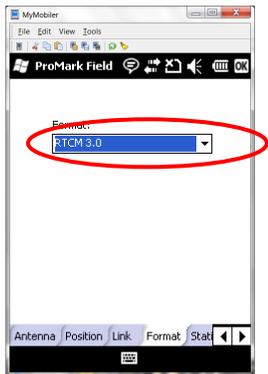
- 8) Base configuration



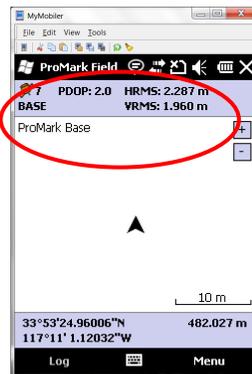
- 9) Comm. 5 @ 19,200 baud under Link / Other External Device



10) Output RTCM 3.x



11) ProMark Field configuration done



CONFIGURATION OF PROFLEX 500 CASTER

12) Create Mountpoint(s)

A screenshot of the ProFlex 500 web interface showing the 'Mount Points' configuration page. The page is titled 'ProFlex500 - Mount Points' and is accessed via the URL '74.111.222.7/ProFlex500/config/embedded_caster_mount_points.html'. The interface includes a navigation menu on the left with options like 'Base Setup', 'Rover Setup', 'Connections', 'Data Output', 'Recording', 'Sessions', 'File Manager', 'Embedded NTRIP Caster', 'Settings', 'Mount Points', 'Users', and 'Advanced Setup'. The 'Mount Points' section is highlighted with a red circle. The 'Mount Point' configuration form is also highlighted with a red circle, showing fields for 'Name' (PM200_BASE), 'Identifier' (PM2B), 'Format' (RTCM3), 'Format details' (1004,1006,1033), 'Latitude' (33), 'Longitude' (-117), and 'Country' (USA). Below the form is a 'Mount Point List' table with columns for Name, Identifier, Format, Format detail, Country, Latitude, Longitude, and Fee. The table contains four rows: ROOF, PHIL, GARA, and PM200_BASE. The PM200_BASE row is highlighted with a red circle. The interface also shows a 'Clear' button and a 'Delete' button. The bottom of the screenshot shows a Windows taskbar with various application icons and the system clock showing 9:55 AM on 10/27/2011.

Name	Identifier	Format	Format detail	Country	Latitude	Longitude	Fee
ROOF	ROOF	RT3	1004,1006	USA	33	-117	<input type="checkbox"/>
PHIL	PHIL	RT3	1004,1006	USA	35	-97	<input type="checkbox"/>
GARA	GARA	RT3	1004,1006	USA	33	-117	<input type="checkbox"/>
PM200_BASE	PM2B	RTCM3	1004,1006,1033	USA	33	-117	<input type="checkbox"/>

13) Set user access privileges

ProFlex500 - Users

74.111.222.7/ProFlex500/config/embedded_caster_users.html

Mount Point List

Allow	Name	Identifier
<input checked="" type="checkbox"/>	ROOF	ROOF
<input checked="" type="checkbox"/>	PHIL	PHIL
<input checked="" type="checkbox"/>	GARA	GARA
<input checked="" type="checkbox"/>	PM200_BASE	PM2B

User List

Username	Allowed Mount Points
JNS	ROOF,PHIL,GARA,PM200_BASE
phil	ROOF

User "JNS" has access rights to all four mountpoints

14) Activate the caster

ProFlex500 - Settings

74.111.222.7/ProFlex500/config/embedded_caster_settings.html

Settings

Caster Settings

Activation

Caster Hostname or IP address: 74.111.222.7

Caster Port Number: 1004

Ensure that port number 1004 (in this example) has port forwarding allowed for internet access

Configure

15) Set ProFlex 500 base station

ashtech HOME | STATUS | CONFIGURATION

Mode → Base Lat → 33°53'24.74113"N HRMS → 0.045 m GPS → 8 / 10 Battery → 90% Recording → Off Sessions → Off 2011-10-27
Position → S-DGPS Long → 117°11'01.65315"W VRMS → 0.032 m GLONASS → 7 / 7 Modem → Off Site Name → 7006 Site Name → ROOF 16:57:30
Station ID → 1 Height → 486.004 m HDOP → 0.7 SBAS → 1 / 2 Level → NTRIP Caster → S:2,C:0 Memory → M: 20.1 MB Memory → M: 20.1 MB FTP Push → Off
Age → VDOP → 1

CONFIGURATION

- Base Setup
- **Full Setup**
- NTRIP Server
- Data Streaming on IP
- Transmitter
- Rover Setup
- Connections
- Data Output
- Recording
- Sessions
- File Manager
- Embedded NTRIP Caster
- Advanced Setup

Full Setup

Base

Dynamic Static Latitude 33°53'24.74112"N
Moving Position Longitude 117°11'01.65436"W
Station ID 1 Ellipsoid Height 485.686 m
Get Current Position

Antenna

Reference Position Ground Mark Receiver Antenna MAG111406
Measurement Type Vertical Height
Antenna Height 0.000 m
Virtual Antenna Off

Satellites

Recording and Output Elevation Mask 5 GLONASS SBAS

Serial Port A

Connection None/Cable Baud Rate 19200 Mode 232 RTS/CTS

Serial Port B

Connection None/Cable Baud Rate 19200 Mode 232 RTS/CTS

Serial Port F

Connection None/Cable Baud Rate 19200 Mode 232 RTS/CTS

Network 1

Connection Embedded NTRIP Caster - Port P Connect Now
Address localhost
Port 1004 Password
Mount Point ROOF (ROOF) Show Characters

Network 2

Connection None

Differential Stream 1

Port P - Ethernet Message RTCM3.x
Differential Stream 2

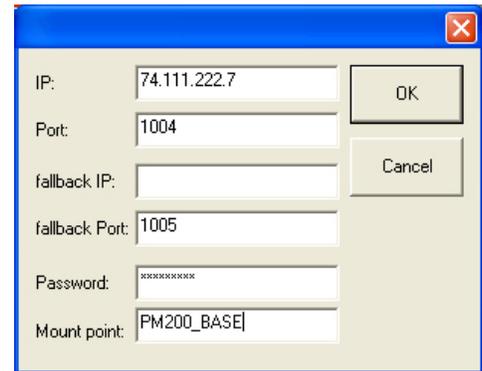
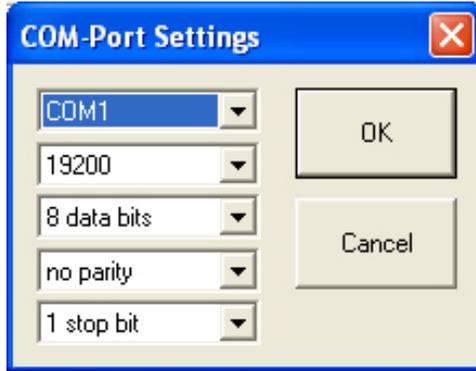
Port None Message None

Ethernet Streaming

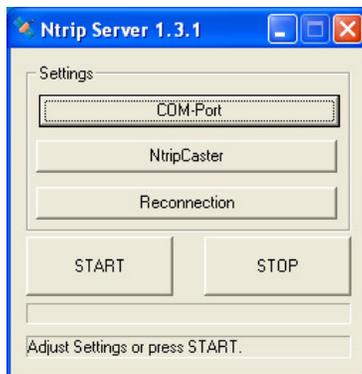
Port I1	Mode	Protocol	IP Address	IP Port	Message Type
<input type="checkbox"/>	Server	TCP		1001	RTCM3.x
<input type="checkbox"/>	Client	TCP		1002	RTCM3.x

CONFIGURATION OF NTRIP Server

- 16) Download and install latest version of NTRIP Server from IGS / BKG website
 - a. As of November, 2011 @ <http://igs.bkg.bund.de/ntrip/download>
 - b. As of November, 2011 – current version is 1.3.1
 - c. Installation should be to the PC connected to the ProMark 200 via cradle and serial cable
- 17) Configure Com-Port
- 18) Configure NTRIPCaster



- 19) Hit the START button and observe stream



20) Confirm successful connection at the NTRIP Caster

The screenshot shows the ProFlex500 status page. At the top, there are navigation links: HOME, STATUS, and CONFIGURATION. Below this is a status bar with various system metrics. The main content area is divided into 'Sources' and 'Clients'. The 'Clients' section contains a table with the following data:

Mount Point	Status	Start Time	IP address
ROOF	●	2011-10-27 15:44:52	127.0.0.1
PHIL	●		
GARA	●		
PM200_BASE	●	2011-10-27 16:02:51	74.111.222.7

EOR