

RTCM 3.1 Decoder in SurvCE

Quick Guide on Messages 1021-1027 Support

(SurvCE/SurvPC beta 2.80.52. December, 2012)

Note: This feature is under beta testing and could suffer corrections and improvements in the future.

INTRODUCTION

This is a quick guide to help SurvCE users getting all benefits from their local NTRIP networks that could have implemented messages 1021-1027 on any of their mount-points.

RTCM 3.1 messages 1021-1027 have been designed to provide Transformation Parameters for the GNSS measurements that can be applied in order to get a more accurate positioning in some of the Local Coordinate System within the network coverage.

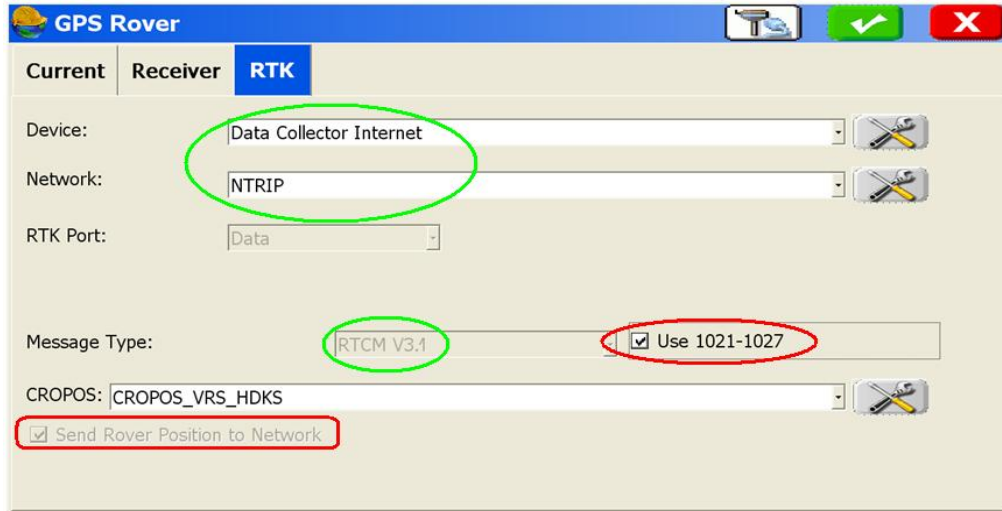
RTCM messages 1021-1027 availability

There are a few check-points you should take in account before planning to make use of this new feature in SurvCE

1. This new feature works ONLY under NTRIP type connections as selected in SurvCE/ GPS Rover/ RTK/ Network Type.
2. RTCM messages 1021-1027 are linked to RTCM 3.1 standard definitions, so you can only expect these messages from those mount-points using this format.
3. Not all RTCM 3.1 mount-points are supporting these messages. If you are not sure for their availability on a certain mount-point in your NTRIP network, please ask the network administrators or follow the instructions below under "User Activation", so you can check by yourself any mount-point using the provided tools in SurvCE first activating the feature and secondly reading the Alert Dialog as explained in this document
4. Current implementation in SurvCE is based in a new RTCM decoder that is compatible by now with the next RTK methods and devices:
 - Any GNSS receiver compatible with SurvCE DCI (Data Collector Internet) RTK method. This mean for those able to make an NTRIP connection using a network device in the Data Collector, like internal GPRS modem, Ethernet, WiFi, etc
 - Using the Internal GSM Modem in ALTUS APS 3 or PENTAX SMT888 (both on v2 versions) GNSS rover receivers

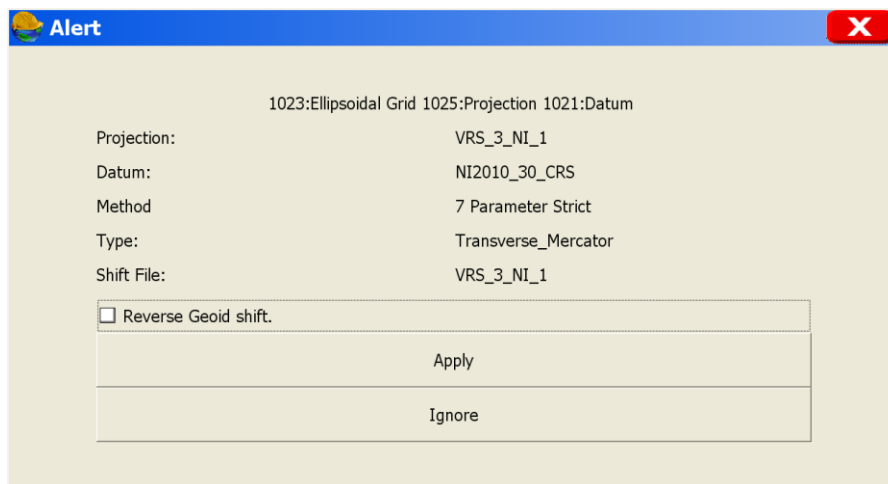
User Activation

It is required a manual activation from the user in order to start SurvCE RTCM decoder. This step is easy to do and can be found in the RTK tab in Rover Receiver Setup. It is a new toggle tagged as "Use 1021-1027" that will only show up under the conditions explained above. You can now apply Rover Settings by tapping the Green-Check Button.



RTCM messages Alert

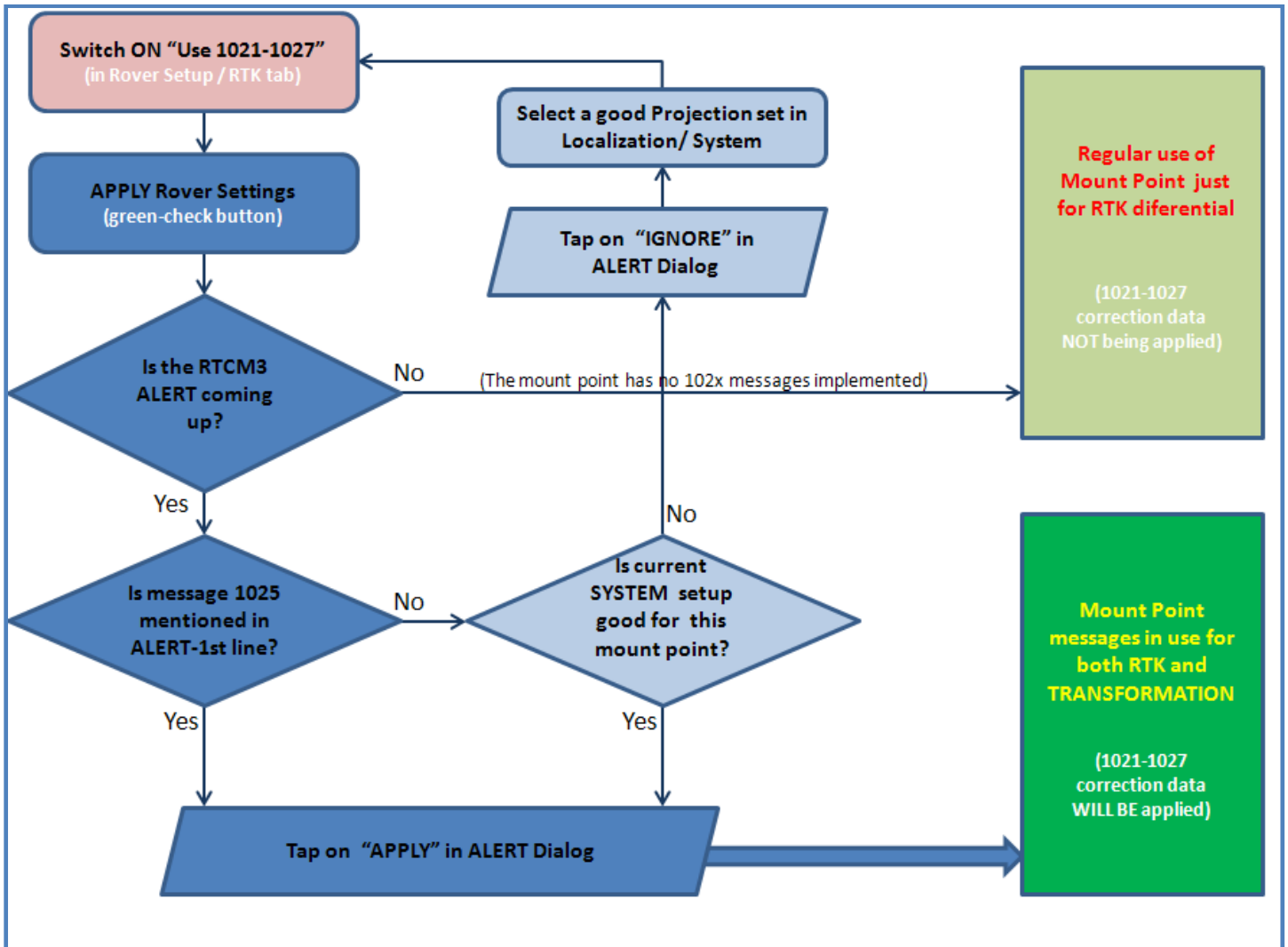
If the selected mount-point is compliant with 1023-1027 messages, a new dialog will show up within the first few seconds after connecting to the caster.



- **Apply / Ignore.** By selecting on one or the other, the user will take his final decision on applying for the transformation parameters coming from NTRIP (use APPLY) or preserving the pre-set System Information from SurvCE/ Localization (use Ignore)

Note: If the 1025 message is not mentioned in the first row (only 1021 and 1023 listed), that means SurvCE will incorporate the user preset System in the Job to complete the Datum Transformation (1021) and potential Lat-Lon-Height corrections (1023) as coming from the network.

Main Flow



Corrections check in Monitor Screen

Any time, the user can real-time check the Lat, Lon and Geoid corrections that are being applied in current position of the rover. New report lines (highlighted below) have been added in the Position Tab under Monitor/ Skyplot .

Monitor/Skyplot			
Quality	Position	SATView	SATInfo
Latitude:	N 52°24'36.00000"		
Longitude:	E 9°48'00.00000"		
Ellipsoid Elevation:	100.0000		
Geographic Shift:	Lat:0.00000" Lon:0.00000" H:42.592m		
Shift File:	None		
Localization:	None	Base Shift:	None
Local Easting:	32554416.8311		
Local Northing:	5806942.2153		
Local Elevation:	57.4082		
Projection:	VRS_3_NI_1		