

Guidelines for Use with Copernicus GPS

The following General Packets and Differences between TSIP Used in Lassen iQ/SQ and Copernicus GPS Receiver:

- 0x41, 0x46, 0x4B automatic packets are output every 1 second instead of every 5 seconds.
 - DGPS is not supported in the Copernicus GPS Receiver. Thus, the following packets are not supported:
 - 0x60 /0x61
 - 0x62/0x82
 - 0x65/0x85
 - 0x69 / 0x89 not available. The Copernicus GPS receiver is a high sensitivity receiver.
 - 0x70 packet is not supported in the Copernicus GPS Receiver. The Copernicus GPS Receiver supports only Kalman Filter and it can not be turned off. No PV filter is available in Copernicus Module.
 - Packet 0xC0 – Graceful Shutdown and Go To Standby Mode is supported in the Copernicus GPS Receiver.
 - In “Key Setup Parameters of Packet BB”, BB packet is still the same, but:
 - The default signal mask is changed to 0.6
 - Fix mode/DOP mask/DOP switch/DGPS correction age are not supported.
 - The dynamic modes are Land, Sea and Air
 - In packet description of 0xBB, Navigation Configuration:
 - Byte 1, only value 0, automatic is supported
 - Byte 2, reserved, DGPS is not supported
 - Byte 3, only values 1, 2, and 3 are supported
 - Bytes 9-12, change AMU mask default value to 0.6
 - Bytes 13-21 are changed to reserved.
 - In packet 0x1E:
 - byte 0 - add 0x4D for enter Monitor Mode. The response packet is 0x5F-FF-‘*’-‘*’-‘*’-‘*’-‘M’-‘O’-‘N’-‘I’-‘T’-‘O’-‘R’-‘-’-‘*’-‘*’-‘*’-‘*’.
 - 0x35/0x55 packets – “Filtered PR’s in 5A” is not supported.
 - 0x3A/0x5A packets, Raw Measurement diagnostic packets have been added to the Copernicus GPS Receiver.
 - 0x45 packet, Byte 9, “Year number minus 1900” instead of “Year number minus 2000.
 - In the 0x7A packet of the Copernicus GPS Receiver, the NMEA sentences TF and BA have been added.
- Copernicus GPS Receiver Reference Manual 105
TRIMBLE STANDARD INTERFACE PROTOCOL (TSIP)
- 0xBC, Protocol Configuration:
 - Byte 1, Two new baud rates have been added: value 10 (57600 baud), and value 11 (115200 baud)
 - Byte 3, only value 3 (8 data bits) is supported.
 - Byte 4, only value 0 (No Parity) is supported.
 - Byte 5, only value 0 (1 Stop Bit) is supported.

- 8E-4A, PPS Configuration:
Byte 3, Polarity, BYTE, 0 = Positive, 1 = Negative
- 0x8E-17/0x8E-18, Set/Request UTM output are supported in Copernicus GPS Receiver.
- The new packet 0x1C has been added to the Copernicus GPS Receiver. Lassen iQ FW v1.16 also supports this packet.