PSXT Protocol

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PSXT protocol

This document describes the protocol between PSXT (PSXseeconTraffic) and a data provider (DP).

PSXT ➔ DP User aircraft latitude/longitude messages at TCP/IP port 10747

PSXT runs server at TCP/IP port **10747**. PSXT listens at that port for a DP (a client) to connect. If connected, PSXT will send **every second** the following text message to the data provider.

Qs121=0;0;5.072578;0;0;0.891259;-0.077921

The last two parameters are the latitude and longitude of the user aircraft in the Flight Simulator, in radians. *The rest of the message (third parameter is heading in radians) is of no importance, it is there for backward compatibility.*

The DP knows now the position of the user aircraft and it should start broadcasting data about the area around the user aircraft with a radius of, preferably, **100** nautical miles (**nm**). For that it should, every **8 or 9** seconds, broadcast as well messages about traffic as about QNH, at different udp ports.

PSXT ⬅ DP Traffic messages, at udp port 49003

For each aircraft the DP should send a text message to PSXT in the following format.

AITFC,508344333,52.1984,4.7690,1275,-704,1,3,150,CND201,B738,PH-DH,BJV,AMS

Suppose there are **n** aircraft in the user area, then it should send **n** of these messages at the same time, and 8 or 9 seconds later again with updated data, and 8 or 9 seconds later again, and again …

The parameters in a message are, from left to right: fixed header, id (decimal), latitude (degrees), longitude (degrees), altitude (feet), v/s (feet/min), airborne (0/1), track (degrees), groundspeed (kts), callsign, aircraft type (ICAO), registration code, origin (IATA) and destination (IATA). All parameters are separated by comma's, there is no comma at the end nor in the data.

Every aircraft has its own id. If an aircraft disappears from the traffic stream but returns later it should still have that same id. Id's should be greater than 10000 (decimal).

Header and airborne are not relevant, while they are not used by PSXT. Origin, destination and/or registration codes may be omitted but the number of comma's should always be the same!

The altitude is always in reference to standard atmosphere, i.e. 1013 hPa, which is flight level rather than altitude. Altitude is never negative. We need the actual QNH to calculate the real altitude in the Simulator, that's why there is a second stream, as follows.

PSXT ⬅ DP QNH messages, at udp port 49004

The DP should send, every 8 or 9 seconds, a message with the QNH of the station **nearest** to the user aircraft. **Preferably** it has the following format:

{"ICAO": "EHAM","QNH": 1033, "METAR": "EHAM 221255Z 35011KT 320V030 9999 FEW038 14/06 Q1033 NOSIG", "NAME": "Amsterdam Airport Schiphol", "IATA": "AMS","DISTNM": 1.2}

The **minimum** requirement is that the QNH text message contains **Q1033** *(with actual data for 1033 of course)* or its inches equivalent **A2992**