

GPS Receiver and Antenna Testing Report for SuomiNet (2000)

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GPS Receiver and Antenna Testing Report for SuomiNet

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1.0 Introduction

SuomiNet is a university-based, real-time, national Global Positioning System (GPS) network being developed for atmospheric research and education. Funding for the network comes from the National Science Foundation (NSF) and with cost share from collaborating universities. The network is based on a dense network of GPS Receivers located at member universities that will measure phase delays induced in GPS signals by the ionosphere and neutral atmosphere. These delays can be converted into integrated water vapor (if surface pressure data are available) and total electron content (TEC), along each GPS ray path [Ware et al., 2000] and used as input into numerical atmospheric models. The University NAVSTAR Consortium (UNAVCO) in Boulder was tasked with developing a receiver bid specification, evaluation of receivers submitted by manufacturers responding to the bid, and providing a receiver technical evaluation to the SuomiNet Steering Committee for the GPS portion of the procurement. This document represents the culmination of the receiver bid specification and evaluation process.

Manufacturers who responded to the bid specification and provided systems are listed in Table 1-1.

Table 1-1: Receiver and antenna pairs tested.

Manufacturer	Receiver	Antenna
Magellan-Ashtech	Ashtech u-Z	ASH701945.02B (Ashtech Ch Ring)
Javad Positioning Systems	JPS Legacy	ASH701945.02B (Ashtech Ch Ring)
Javad Positioning Systems	JPS Legacy	JPS Regant DD E (dual-depth Ch Ring)
Javad Positioning Systems	JPS Legacy	JPS Regant SD E (single-depth Ch Ring)
Trimble Navigation Ltd.	Trimble 4700	TRM33429.00+GP (Microcenter Ring)

Trimble Navigation Ltd.	Trimble 4700	TRM29659.00 (Choke Ring)
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[See [attached .pdf file](#) for more.]

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