1046-05-794 **John Bowen Polhill*** (jpolhill@bloomu.edu), Department of Mathematics, CS, and Statistics, Bloomsburg University, 400 East Second Street, Bloomsburg, PA 17815. *Paley partial difference sets in groups with order not a prime power.*

By modifying a construction for Hadamard (Menon) difference sets we construct two infinite families of negative Latin square type partial difference sets in groups of the form ${\mathbb{Z}_3}^2 \times {\mathbb{Z}_p}^{4t}$ where p is any odd prime. One of these families has the well-known Paley parameters, which had previously only been constructed in p-groups. This provides new constructions of Hadamard matrices and implies the existence of many new strongly regular graphs. As a corollary, we are able to construct Paley-Hadamard difference sets of the Stanton-Sprott family in groups of the form ${\mathbb{Z}_3}^2 \times {\mathbb{Z}_p}^{4t} \times \mathbb{Z}_{9p^{4t}\pm 2}$ when $9p^{4t} \pm 2$ is a prime power. These are new parameters for such difference sets. (Received September 11, 2008)