

- R2. ✓ Physics Dept.,  
University of Reading,  
Whiteknights Park,  
Reading, Berks.  
Tel. Reading 84372
- Metallurgical and physical studies  
on metals and alloys up to 60 kb.
- ✓ Trevor Evans  
E.W.J. Mitchell (Prof.)
- Tetrahedral anvil apparatus  $\frac{1}{2}$ " and 1" edge.  
Piston and cylinder apparatus for lower pressures.
- R3. ✓ Research and Industrial  
Instrument Co.,  
17 Stannary Street,  
London, S.E.11.  
Tel. RELiance 0021.
- Equipment design.  
High pressure generation for research.
- ✓ E. Hawker  
G. Murphy
- Piston and cylinder, belt and cube equipments to  
100 kb, 1cm<sup>3</sup> working volume.
- R4. Ministry of Defence,  
Royal Armament Research and  
Development Establishment,  
(D4 Branch),  
Fort Halstead,  
Sevenoaks, Kent.  
Tel. Sevenoaks 55211.
- (a) Hypersonics.  
(b) Hyper-ballistics, including terminal ballistics.
- J.E. Bowman (ext. 265)  
D.F.T. Winter
- A charge of gas (N<sub>2</sub> or He, pressure up to 1 kb lab. temp.) contained in a vessel of a few cubic feet capacity is suddenly released by controlled bursting of a diaphragm and used either to generate hypersonic flow or else to propel a projectile (up to 1" calibre) at speeds of order 20,000 ft/sec. Transient pressures of order of megabars are generated during terminal ballistic studies.
- R5. Ruston and Hornsby Ltd.,  
Lincoln.  
Tel. Lincoln 21241.
- All fields of work involving high pressure and/or high temperature, e.g. power generation and petrochemical industries where problems of fluid containment are encountered.
- K.A. Bray  
G. Hingley
- Seals for use to pressures of 4 kb and temperatures of 850°C.
- S1. Salford Electrical Instruments  
Ltd.,  
Times Mill,  
Heywood, Lancs.  
Tel. Heywood 69911.
- Hydrothermal synthesis of quartz.
- E.A. Fielding  
G. Franklin
- (a) Electrically heated autoclave 400°C, 2 kb max. pressure.  
(b) The Company can supply synthetic crystalline sapphire windows for use on pressure vessels.
- S2. The Sheffield Smelting Co. Ltd.,  
Royds Mills,  
Windsor Street,  
Sheffield.  
Tel. Sheffield 26511.
- Cold forming of metals.
- H.G. Kirkman  
W.J. Smellie
- Extrusion presses - conventional vertical  
- hydrostatic, on order, delivery awaited.

<u>Organisation</u>	<u>Field(s)</u>	<u>Equipment</u>
S3. ✓ Dept. of Physics, The University of Sheffield, Sheffield 3. Tel. Sheffield 78555 ext. 277	Physical studies in the following: 1(a). Pressure dependence of Curie point in rare earth metals and Heusler alloys. (The main interest is in ferromagnetic materials where the magnetic coupling is indirect, through the conduction electrons).  (b). Spin resonance under pressure - change in "g" factor in Gd. Apparatus under construction.  2. Electrical properties of mixed valence semiconductors, in single crystal form, and other low mobility solids. Limited to conductivity at present, may be extended to include the Hall effect.  ✓ I.G. Austin B.A. Smith	1(a). A $\frac{3}{8}$ " piston - cylinder in Be-Cu. Indium pressure medium, 0 - 8 kb, - 150 to 100°C.  (b). Be-Cu cell, sapphire window, liquid pressure medium. 0 - 8 kb, - 50 to + 50°C.  2 ✓ A $\frac{3}{8}$ " piston-cylinder in carboloy. 0 - 20 kb using liquid cell, and 0 - 30 kb using solid pressure media. - 150 to + 150°C for the latter.
S4. ✓ Shell Research Ltd., Thornton Research Centre, P.O. Box 1, Chester, Cheshire.  Tel. Ellesmere Port 3600.	Physical studies.  ✓ H. Naylor G.D. Galvin	High pressure pumping equipment up to 8 kb. Containers, intensifiers etc. for pressures up to 10 kb. Equipment for viscosity, density and dielectric constant measurement on fluids at pressures up to 10 kb and 200°C.  As required for this process.
S5. Simon-Carves Ltd., Cheadle Heath, Stockport, Cheshire.  Tel. GATley 3600.	Engineering contractors for polythene plants using the I.C.I. high pressure know-how.  F.P.C. Coker	
S6. Solartron Electronic Group Ltd., Victoria Road, Farnborough, Hants.  Tel. Farnborough 44433.	Design and manufacture of pressure transducers and associated electronic equipment. Particular experience of melt and pack pressure measurement in polymer extruders for nylon, terylene, polypropylene, etc.  J.W. Lodge I.G. Charter L. Davie	(a) 5/8" flush diagram unbonded strain gauge transducer. - 200°C to + 320°C. Fast transient response, 1 kb full scale. Working volume: between 35 x 10 <sup>-6</sup> and 60 x 10 <sup>-6</sup> cu. ins.  (b) Differential transformer pressure transducer. Secondary containment to 700 bars. - 40°C to + 380°C. 500 bars full scale. Higher ranges on request. $\frac{1}{4}$ " B.S.P. female pressure connector. 400 c/s carrier system. Working volume : between 35 x 10 <sup>-6</sup> and 60 x 10 <sup>-6</sup> cu. ins.  (c) Vibrating cylinder pressure transducer. 700 bar maximum at present time. - 10°C to + 150°C. Variable frequency output signal.