Honeywell Inc, Military Products Group, Aeronautical Div Ridgway Rd, Minneapolis, Minn 55413, USA Airborne integrated maintenance system (AIMS) is a simplified, in-flight automatic visual-display check-out system with optional digital recording; central airborne parameters analyser (CAPA) records bulk data on tape and indicates malfunctions and time of occurrence on printed report.

Howell Instruments Inc W Vickyer Blvd, Fort Worth, Tex 76107, USA Howell's airborne engine analyser continuously monitors, and records by print and visual flag indicators, the high-temperature history of gas turbine hot sections, thus providing a current indication of engine condition and a direct cause of deterioration in performance. Widely used in USAF fighters, the system is being evaluated for other military and commercial applications.

IBM (United Kingdom) Ltd Chiswick High Rd, London W4 (01 995 1441) Ground data processing equipment and computers.

Irvin Air Chute Ltd Fort Erie, Ont, Canada Exclusive world-wide representative (outside USA) for Conax Aid Pak inflation device.

Kollman Instrument Ltd Southampton Airport, S09 3FR (0242 26 2731) Transducing attitude and ADI systems, combined with airspeed transducer units and accelerometer transducers.

Leigh Siegler Inc, Electronic Instrumentation Div N Brookhurst St, Anaheim, Calif 92803, USA Leigh tumbling aerofoil recorder recovery systems for reconnaissance versions of the AIMs (AIMs) for reconnaissance versions of USAF F-101.

Leigh Instruments Ltd Carleton Place, Ont, Canada Produces such Leigh Flotation line data recording systems—each with a capacity of up to 64 data channels recording on 0 in tape, plus a feature of up to 64 in tape—where LEADS military Series 100 and 200 and civil Series 300. Both military systems have provision for continuous monitoring audio signals and limit-excess maintenance indicators, and use the Leigh tumbling aerofoil recorder recovery package. Both are in service with the USA and Canadian Armed Forces and the Series 200 is produced under licence by Donnier System for the Luftwaffe's F-104G.

Lockheed Aircraft Service Co Model 109-C, crash-protected ADR (scribed-line on aluminium ribbon)

Lockheed Aircraft Service Co, a Division of Lockheed Aircraft Service Co, a Division of Lockheed Airplane Co, Ontario International Airport, Calif 91764, USA Of more than 1,800 LAS 109-C and 109-D five-parameter analogical ADRs sold to 50 operators and 50 109-Ds will be installed in Boeing 747s.

The new ARINC 573 expandable data recorder, EFDR Model 209, under development for the next generation of aircraft (or for retrofit to current airliners), is a 64-channel digital system expandable by further 64-channel increments. Optional additions to the basic magnetic tape ADR include trend recorder, digital transmission, and voice equipment, in-airline analysis printer and/or data link transmission. The use of interchangeable expansion units allows digital storage, voice or data, and voice equipment, ranging between a mandatory ADR system to an advanced performance-monitoring ADR.

Northrop Norair Div, Northrop Corp Palos Verdes Peninsula, Calif 90274, USA Digital computer for Lockheed MADAR; IRS (inertial status reporting system) for F-104G; NORVIPS (Northrop voice interception priority system) for crew-alarming, by pre-recorded voice warning, to malfunction in any of 50 monitored parameters; CIPR (continuous in-flight performance recorder) miniature four-channel tape unit, recording simultaneously voice-warning message to pilot's commentary and radio communications.

Page Engineering Co (Sunbury-on-Thames) Ltd Sunbury-on-Thames (0932 7 8424) Specialists in centralised warning systems and master warning display panels. Memory features and “attention” facilities can be incorporated.

Penny & Giles Data Recorders Ltd Madeford, Christchurch (Highlife 2233) The company's experience of ADRs dates back to 1960 when prototype equipment was first tested in conjunction with the AA&EE. Developed from this equipment, the 500 Series is a very compact amplitude-modulated electro-mechanical data recording system, using a crash-protected 15hr wire recorder. Interchangeable with the 500, the 6000 Series is a 30hr digital development incorporating solid-state electronics based on SADAS experience (see Sperry). Versions of these military systems are fitted in RAF Andovers, Belfasts and VC10s, and specified for the Nimrod. The civil 5000 Series, 300hr digital development, was fitted by BOAC in EFAD-equipped aircraft and by BUA and other operators using SADAS, with a 25hr digital development, SADAS 800 Series 25hr recycling ADR uses stainless steel tape as recording medium. Considerably stronger than wire, the eight-track steel tape (0.005in thick, 7in wide) accepts digital data, or parallel data and voice recording. Versions are being developed with increased data storage capacity, or with a separate four-channel, 30min recycling voice recorder incorporated. This 26bL, crash-protected 4 ATR short unit has been ordered by BOAC for the Boeing 747 fleet. It is also specified for Sperry's new SADAS 8000 and 9000 Series and has been ordered by Garrett AirResearch. Another new unit ordered for BOAC's Boeing 747s is a 100hr cassette-loading performance-data recorder using 11 Mylar tape. Penny & Giles transducers and potentiometers are widely used in British and foreign airborne data acquisition systems.

Philips Electrical Ltd Shaftesbury Ave, London WC2 (01 437 7777) Portable voice and data acquisition recorders; miniature tape cassettes.

Plessey Co Ltd, The, Electronics Group, Radio Systems Div Ilford (01 478 3040) The Division has been engaged in research, development and manufacture of a number of military voice and data monitoring systems for the United Kingdom and overseas.

Fifteen-inch mortar: the very special needs of the operation demand this massive cartridge-fired ejector for the Concorde prototype MADAR under-water-recovery package. ML Aviation have also developed a much lighter compressed-air actuated system for commercial aircraft

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