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ATARI USER

Vol. 4 No. 6

October 1988

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RAMPAGE
Rampage, Super Dodge Ball, Matta Blatta,
Extirpator, Star LC-10 colour printer

DRACONUS

The making of a legend

**£500 of Sony
sound equipment
must be won**

[illegible]

and the following authors:
David H. Gustafson

1. *Journal of the American Medical Association*, 2000; 283: 2669-2674.
 2. *Journal of the American Medical Association*, 2000; 283: 2675-2680.

STEFANO M. G. ALBERTI, *Università degli Studi di Milano*
 Milano, Italia

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Journal of Internal Medicine 247: 395–402

Figure 1 continued

PROFESSOR, FORTUNE
 ABOUT THE UNIVERSITY

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Abstract *Abstracts of the papers presented at the 1997 Annual Meeting of the American Psychological Association, Washington, DC, August 1-5, 1997.*

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0781 = Lili
 0782 = *Chrysomela* (Lili)
 0783 = *Chrysomela* (Lili)
 0784 = *Chrysomela* (Lili)

After three months' progress last year, the call for participation has been repeated (4) four or five times and good results have been achieved. Program directors should be encouraged by concrete help in the form of advice, material and technical assistance, information, the help of trained staff in particular. Some business managers in particular, by their own efforts, have been able to get on with it.

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Another potential issue is that the current study did not include a control group, which could have helped to rule out alternative explanations for the findings.

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Your favorite Area adventures look at a new breed of heroes

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Unlike the macroscopic and several other variables for the 2000

For example, the following code will return rows where column1 and column2 are equal:

What will the state receive in return for its release? For your information

✓ Get it right! II

All major listings in this issue are accompanied by checklists to help overcome typing mistakes. For full details of how they work, see the article on page 26 of the July 1988 issue of *Down Line*.

DRACONUS

Herold has the 8 bit Atari been treated with such respect. Thanks to Zeppelin's unrivaled Atari experience, 8 bit gamers everywhere can now rub their heads with glee at the prospect of playing the game that's got the games software world jumping with delight. DRACONUS is the ultimate Atari 8 bit experience putting Atari software and the 8 bit computer up where they belong - right at the very top.

It's important to spend the morning pre-writing your list of tasks, noting down a few minutes before you start. This will help you to focus on the task at hand and not get distracted by other things.

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1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

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Table 1

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Figure 1

Abstract

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New US products are on their way

ANOTHER batch of important Atari 8-bit products have been announced by US developer Home Software (816) 312 393 (317).

News Station brings some powerful page layout capabilities to the XLXE micros. It allows the user to combine graphics and text and print them out. Price \$29.95.

News Station Companion includes a plate manipulator to expand and merge News Station plates. An Atari converter plate converter for selecting part of a picture and News Station Librarian which allows pages to be compressed to save disk space. Price \$29.95.

Publishing Pro is the first display oriented desktop

substitute available for Atari 8-bit micros. It allows users to create an entire page of single column headlines and icons and is compatible with Atari Plus Print Shop icons and News Change. Price \$35.95.

Business Manager 3.0 — a complete accounts receivable business package also prints statements, mailing labels and invoices. The program is entirely application based, tracks an unlimited number of customers and takes advantage of two disc drives and the extra 64K of memory in an Atari 1050C. Price \$49.95.

Super Memory is a C656 keypad handler that will allow you to use your keyboard with most commercial software including

SynCide, Year Personal Mac Worth and others. Also included is a keypad emulator that gives complete flexibility in designing new keypad layouts.

Keys can be defined to represent up to 10 characters. Price \$19.95.

Write XL — a powerful backup utility — will duplicate most un-protected commercial software without copying hardware. It is completely software based and will work with any disc drive. Price \$24.95.

Rhythmizer is a sound synthesis program intended to simulate a drum set, but which can be customized to create many other instruments. Included are several and rhythm editors. Price \$24.95.



High scores the aim

A NEW arcade quality joystick offering eight micro switches — and a range of features for some of the most difficult of computer games — is being marketed by Compuserp (800) 470-4444.

The Micro Master, manufactured under exclusive license for Apple, is ergonomically designed in steel and black with non-slip rubber feet.

The eight micro switches ensure maximum efficiency and it has a conveniently single or rapid fire buttons for high score games.

A 1.5m cable means the player can take up more positions. Price £12.95.

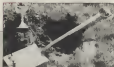
Business looks up

AT&T's forthcoming all-in-one fully integrated business package from America for Atari 8-bit micros has been launched. And by Computerhouse (81) 731 1270.

Called Tereobase it features three integrated data base word processor spreadsheet accounts system and report generator. It has open inventory inventory/book control, payroll flexible mailing and file management along with complete system archiving.

And it's easier to use than dBase, Rase or Lotus says Computerhouse senior partner John May.

It comes with a 760 page manual including a quick course and cookbook. Price £110 in 40 column format £120 in 80 column format.



Join the treasure hunt

ATARI users have been invited to take part in a treasure hunt to find the secret hiding place of a £5,000 reward of the top selling Atari 8-bit.

The nationwide game has been organized by Men-Data Software (862) 470-0001 to mark the launch of Lancelot — a graphic adventure game based on the legend of King Arthur. Developed from starting effort and guided towards 22 year old the 3rd high bidder is rewarded with

one precious stone. It is hidden in a silver statue somewhere in the UK.

To find the prize Lancelot will need to win a copy right Lancelot. Based on the content in the new three adventure Lancelot package.

Control Lancelot and Arthurian expert Peter Arden said: "All people need to do is study the Lancelot poem carefully and the clues — plus their memory — will become obvious." Price £14.95.

Cut-price games

A NEW software club has been started which gives away quality games at half price for Atari 8-bit users.

Called Special Releases (0275) 755555, it claims to be able to offer the lowest overall prices for collection retail software.

Annual Membership costs £4 and includes three issues of the Special Releases buyer's guide, new release updates with each game bought, a folder and membership card complete with privilege ordering number.

One of the special introductory offers is a full set of close to the Manda Software games Tune & Meg and Lancelot.

RS-232

ANDRE WILLEY explores the mysteries behind computer talk

MOST people are familiar with the terms *serial*, *asynchronous* and *RS-232*, and many will even know that the first is a parallel system of transferring information while the latter uses a serial system. But what is the difference between the two types of interfaces — and why do we need both systems?

Well, whatever one is in use at the time. And it is very simple — to transfer computer-based information from point A to point B as quickly and efficiently as possible. In computer terms, each individual character to be sent is called a byte, and it is stored internally as a pattern of eight ones and zeros known as bits.

Some of these bits will be switched on and others will be off, and to transfer any information between a computer and device such as printer or modem, it is necessary to transmit these patterns down some form of connecting cable. To do this, each bit is converted into a short pulse of electricity — normally five volts for a 1 bit and zero volts for a 0 bit.

Imagine for a moment that each single bit pulse of data within a byte is represented as a car travelling along a main road between two cities. As we would ideally like to send our eight car bits down the road simultaneously it would seem highly logical to build an eight-lane motorway so that each car could have a clear lane of its own. Thus each car could drive alongside — or parallel to — the other seven vehicles making up a full byte, and the journey would be a fast and smooth one.

This is fine in theory, of course, but it would be rather impractical to construct eight-lane roads everywhere all over the country, so far larger journeys we might expect to find ourselves driving along ordinary main roads with just one lane in either direction. In that case our eight cars must follow each other rather to the whole way, and the journey would take considerably longer.

This example shows how a single byte of data — or eight cars, whatever you prefer — is passed between two locations, but real-life data transfer is complicated by the fact that you rarely want to transfer a single byte on its own. More often a stream of bytes will be sent — such as printing out a full

document on your word processor, or downloading a bulletin board file via a modem.

If you are using a parallel interface such as our eight-lane motorway, there is no problem — all you need to do is send each row of eight cars down the road after the previous one has left. When they reach the other end each row, or byte, of eight cars will still be driving side-by-side, and the next byte will follow straight after.

The problem occurs when using a serial interface — such as our RS-232 single-lane road. If you send another set of eight cars down the road immediately after the first, followed by another and another after that, then there is no simple way of telling where one block of eight vehicles and the next begins.

This dilemma is prevented by sending out another vehicle, say a large lorry, before each group of eight cars. Once all the vehicles reach the other end of the road they will still be in the same pattern. One lorry, eight cars, one lorry eight cars, one lorry eight cars and so on. In computer terms, these lorries are called start bits because they indicate where one particular byte of data starts (see Page 10).

To make our example completely true to the digital world of computers we will need to make one other alteration. Since a computer can only deal with bits of data which are either on or off — that is, voltage present or no voltage — we should really think of our roads as containing cars and spaces the same length as a car, rather than two different types of car.

Eight-lane traffic

In the parallel motorway example, a byte such as 10000001 would have a car in the outer lane, empty spaces in the middle six lanes, and another car in the inner lane. As long as every car on the road, including those in the row behind, travel at the same speed they should arrive in the same pattern.

In order to tell the computer at what speed the information is being sent, an extra signal line known as a strobe is used to provide some synchronous pulses. This can be thought of as



Figure 1. A serial interface

a serial in 8 bits

a line of extra cars driving down the hard shoulder of our motorway, always repeating alongside each main row of cars. (see Figure 1)

If you think about it, this system also gets around another possible problem — that of how to detect and refer errors. Now that we are dealing with cars and spaces instead of just cars it would be quite possible to mistake a row containing ONLY spaces for the gap that occurs between two rows. The extra set of cars on the hard shoulder means that we always know the difference between an empty row and a gap.

One way system

In a serial system, where we are dealing with a single lane only, speed becomes even more important since we have no hard shoulder available for extra information. What happens instead is that the speed of our car-bits is very carefully regulated so that we know that there should be, for example, one along every five seconds. After the start bit — or long in our example — has arrived we know that either a car or a space will be in position for checking once every five seconds.

The speed of the bits is known as the baud rate and basically refers to the number of bits which are sent out every second — so 300 baud refers to a data rate of 300 bits per second. This count includes any start and stop bits (normally two is total) so 10 bits per second are full bits of data — thus giving a data transfer rate of about 30 characters per second at 300 baud.

To avoid any confusion on the line, and because the receiving end may not be able to handle data as quickly as you can send it, both parallel and serial interfaces allow a system user to toggle lights in order to tell the computer when to start and stop sending information.

When the lights are at red — indicating the peripheral is currently busy processing and can't accept any more data — the computer will wait as it thinks until the lights go green again. This is referred to as hand shaking.

As you will probably have realised by now parallel interfaces are very much simpler than serial but require many more wires for the data to be sent along. This is why the Centronics parallel system is more often used for

short distances — say from the computer to a printer, and the RS 232 serial system is used for longer range communications — either from room to room or even, by phone, to anywhere in the world.

Can you imagine having to use eight phone lines to send a message by modem? Well that is what would be needed if we were to design a parallel interface for telephone use. The layout used on a Centronics connector is

shown in Figure 2. You will recognise the eight data lines as the eight lanes of traffic in our example, and the strobe as the hard shoulder. The busy and fault lines work like traffic lights.

The Busy signal goes to red to indicate that the printer can't take any more information for the moment while the Fault signal is just the opposite and must always be switched to

Turn to Page 44



Figure 2: A parallel interface

Pin No.	Function
1	Strobe (Busy)
2	Data bit 1
3	Data bit 2
4	Data bit 3
5	Data bit 4
6	Data bit 5
7	Data bit 6
8	Data bit 7
9	Data bit 8
11	Busy
16	Ground
20	Fault



Figure 3: Centronics connector pin diagram

Pin No.	Function
3	Data Out
5	Data In
4	Request to Send
6	Clear to Send
6	Data Set Ready
7	Ground
8	Carrier Detect
20	Data Terminal Ready



Figure 4: RS 232 connector diagram (pinout and)

1000 1000 1000 1000

These are especially important when sending data over telephone lines because you will often be using very slow baud rates – such as 300 or 1200bps – which may run at the same

Most of these handshaking lines refer to the Data Terminal and the Data Set. These are parenthetical terms, and in our case the Data Terminal would be the Atari micro stuff and the Data Set would be the modem - or indeed any other RS-232 device we choose. super@compuserve.com

The Request To Send signal is very similar to the DTR, except that it not only says that the computer is ready to send data but actively requests the modem to make ready for a transmission. Clear to Send is the modem's reply to this request and gives the computer the green light to send its data.

Does your know how to do that you see correct hundreds of different third party devices to your users - ranging from simple platform to more advanced automatic sending messages?

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Software

SCENE

Have a smashing time

Product: Rampage
Price: \$19.95 (street \$29.95)
Genre: Action
Distributor: Atari World, 11
Farmers Street, Waltham, MA 02154
Tel: (617) 894-4000

It has been a long time since an arcade game has been converted on to the Atari II, but now Activision has released Rampage, formerly by Billy Midway.

It is based on the exploits of three indomitably nasty 31 ounce behemoths: King Kong, Godzilla and Wolf Man. And the only thing that will satisfy them is total destruction.

Loading the disc-based game is simple. Just keep any controllers on till midlines or hold down the Option key on newer models while switching on. Console users must remember to hold down the Start key while following these instructions.

The game is designed to be played by two people using joysticks. Up, down, left and right move your monster in the desired direction. Holding the fire button and then moving the joystick will cause the monster to throw a punch or grab in the chosen direction. In the very best of Hollywood tradition, Rampage unleashes monstrous mayhem on an unsuspecting public.

It seemed like any other day at the Greenburger Fast Food Emporium except for three unlucky customers who were to get something better than their usual Big Macs.

The company's mascot, Rhylin, has been playing

around with several experimental food additives - and have they wanted results!

A wave of monsters had advanced then a new and potent wave swept over George, Lorne and Ralph. Then they ripped off their clothing and got into their designer label fur and scales.

Life isn't funny when you're a 33 foot Godzilla. Lorne or Wolf-Man and the rest of the world is just about to find out how bad it is.

You play the roles of George, Lorne and Ralph. And in a desperate battle for survival you stomp skyscrapers and smash walls with your fists as you look for something edible - something from toasters to tasty little humans.

Be very careful though; damaged buildings will eventually collapse into rubble. Keep off them when the foundations start to crumble as getting trapped under falling debris will weaken you.

The nature's military is also hell bent on your destruction and you must



parach or avoid the snakes in the windows. Gunship helicopters are also buzzing around the screen in an attempt to shoot you. Stay down like this.

If you lose all of your energy - indicated by bars at the top of the screen - you will revert to your human form and find your nakedness as best you

can, shuffle off the screen to embarrassment.

When a whole level of buildings has been demolished a new one takes shape ready to be finished. There are 80 cities and you spend three days in each, making 150 different scenes to destroy.

Rampage is great fun to play and the graphics and animation are very good. Adequate sound effects complement the game, but the title music is atrocious.

Of the only budget games have been reviewed in Atari User and it makes a nice change to see a full-price game appear on the market. I only hope that Activision follows it up with a few more.

Rampage has been very well chosen.

Neil Parsons



Sound	4
Graphics	4
Playability	4
Value for money	4
Overall	4

Software SCENE

Universal removal man

Product: *The Enterprise*
Price: £1.66 (tape)
Supplier: Atari World 11
Farnham Street, Winchester
SO9 3DQ
Tel: 021 834 4541

YOU are the Enterprise, remover of unwanted items by force. Your task is to root out all evil from the universe and to help you, do this you have been placed in charge of the Alpha X Ray squadron. Your first mission is to find a quantum attack against the forces of Lux IV who have invaded and enslaved your home planet. You must lead your own vessels through a number of

stations which are guarded by enemy pods and craft. After negotiating one level you have to take your way through the sector wall to proceed to the next sector.

Loading is easy. Remove all cartridges from your machine and hold down the Start key while switching on. On many machines you have to hold the Start and Option keys while switching on. Then press Reset and the game will load.

You control your ship using a control plugged into port one - I found the joystick response a little sluggish.

At the top of the screen you will find a very colourful status line which indicates your score, lives remaining, power and what game level you are on. The main screen

scrolls from left to right. By holding the screen the four pods and moving them at different speeds the programmer has given the game a feeling of depth.

The design of your ship is original and so are the enemy craft - one of them reminded me of a flying whale.

I found the graphics quite pleasant and the sound effects rather good. The title music is a superb jazz piece and really got me foot tapping.

Stephen Fawcett

Sound	4
Graphics	4
Playability	4
Value for money	4
Overall	4

Going for gold

Product: *Quartet Gold*
Price: £9.99 (tape)
Supplier: Atari World 11
Farnham Street, Winchester
SO9 3DQ
Tel: 021 834 4541

THE latest release from Red Rat Software is another competitor on pack - *Quartet Gold* - containing *Space Wars*, *Dreadnaught*, *Little Devil* and *Lost Hawk*.

Space Wars centres around the hostile actions of the Melden Empire. At the first meeting of the Intergalactic Federation on the planet Alpha Nine the ugly warships from the dark stars declared war on Earth.

As the Federation prepares its own fleet and

Melden craft are moving to attack the South, you guide your space fighter through the starfield and enter the fray.

All controls are via a joy stick plugged into port one. Keep a sharp eye on your shield fraction panel at the top right of the screen. When it runs out you're dead. While your shields are at full you can use Melden craft and destroy them. But be careful, this drains your strength and you may end up losing a life.

The graphics and sound effects are reasonable. However, I was playing games like this 10 years ago when I first got the Atari. *Space Wars* is an acceptable game on a comparison pack, but I wouldn't have

bought it at its own. *Dreadnaught* is set deep under Earth's oceans. Here a terrible battle is being waged in an attempt to save the city of Atlantis from being overrun by aliens from a distant galaxy.

Atlantis was once the home of a race of super-

scientists who developed fantastic new machines. Now the attacking aliens are attempting to steal them so they can conquer the universe.

Your job as the commander of the SS *Dreadnaught* - the latest nuclear powered deep water submarine - is



Software SCENE

Keep on firing

Product: *Miss Betsy*
Price: £24.95 (road)
Supplier: *Atari World* 11
Parslof Street, Manchester
M4 5DU
Tel: 061-434-4343

YOU are the pilot of the latest hi-tech space fighter trying to save the Universe from destruction by deadly anti-matter aliens who are invading it.

You load the game by removing all cartridges from older machines - do hold Option on power modes - and then press Start while watching on the main Miss Betsy screen and the game will load.

You move your ship using a joystick plugged into port



one. Pressing fire will shoot your laser which have a devastating effect on enemy vessels.

At any time during the

game you can press Select to pause all action. Pressing it again will continue play. The plot is about the last

and the Miss Betsy screen. Given out of 255 is display but interesting - has allowed the programmer to create some interesting visual effects.

As budget games go this one is quite good. The only complaint is that the enemy vessels move too fast and are not avoid them at times.

Stephen Fawcett

Sound	.....	3
Graphics	.....	3
Playability	.....	3
Value for money	.....	3
Overall	.....	3

to destroy them before they destroy you.

You control the Dread Knight using a joystick plugged into port one. The fire button will launch one of your missiles which will hopefully destroy the enemy.

Again this is an unusual game that should provide some fun. Yet another clone of the old defender style game. It unfortunately falls short of the standard. I have very little of Dread Knight after only a few games.

Little Devil is a character trapped in Hell. The only way he can escape ever being locked in to playing the test souls which are floating around in a state of limbo.

He must also free Princess Loretta, King Bloodgood's imprisoned daughter who is held in Castle Despair. You play Little Devil and you



must collect all the souls which are marked with a number before the time limit expires.

This is done by bouncing and jumping around the various levels. You meet the game with these levels and you lose one every time you come in contact with a guardian.

This is the best so far - considering it is yet another variation on a platform

game. The graphics are well presented and the sound effects are reasonable. When first released it fell into several categories - Banned! I don't know why and I don't think I has any left with the result of horror.

The final game is *Lease Hawk*. Basically this is a helicopter shoot 'em up very similar in design to *Scramble*. Unfortunately, the version I received didn't have a game play as I

can't tell you the story behind it.

The game starts from left to right and you must fly low over some obstacles and looking down constantly over the area making your life very difficult.

Make sure you watch your energy level carefully as when it drops to zero you are dead. However, located around the corners are fuel dumps. All you have to do is fly over them and your energy level goes up.

The graphics are excellent and the animation of your 'chopper is very well done. For me this is the must-play game of the hour. Overall the compilation is well worth its price tag of £2.99.

Stephen Fawcett

Graphics	.....	3
Sound	.....	3
Playability	.....	3
Value for money	.....	3
Overall	.....	3

The American experience

NEIL FAWCETT takes another look at the products available for American 8 bit users

I LOOKED last month at American hardware and the problems of importing it into the UK. This time I want to concentrate on the difficulties you can face when trying to get good quality games for your Atari 8 bit.

Lately the software market in the UK has been undergoing what can only be described as a shortage of well written programs. Only a few loyal software houses are still converting the 8 bit Atari — Jogaella Tynesschi

Red Hat, Asterix and Alternative spring to mind immediately.

Lately most of these software houses have decided to concentrate producing games and they are waiting for Atari's new support for the 8 bit. This is coming in the shape of a large number of 87 game conversions due to be released very soon. Atari's plan is to once again flood the market with superbly written games — just like in the old days.

Also, the High Street shops are

again fully supporting the sale of 8 bit hardware. One in particular, Discos, is packaging a 6602 with 64k ram, 80712 tape deck, a number of games and a 14in. Cossin colour TV for only £199.99. Now that's a value for money!

If you still yearn to look back to last month you'll remember I said I was going to talk about a game called *Left Patrol*. It is a stunning graphical adventure which is currently only available in America — even though versions on other 8 bit machines have been here since the early part of 1987.

The scenario revolves around the exploits of Johnnie McGibbetts, super spy and ex helicopter pilot. Your mission is to penetrate and destroy several enemy ground installations.

To help you carry out this daring task you have been given control of the Game Disk Editor (shaper) — understand the *Snakey Snake* software you get your tactical computer and enter the coordinates of the enemy base.

During the game several events will occur just in a split. You must ensure whether they are friend or foe and take the necessary action — blast them into bits or let them go.

Once you find you have to penetrate the base — posing as a guard. Once you have taken photographs of enemy documents, ground guards and planned explosives you have to get out — fast!

As you can see from the screen shot the graphics are marvellous. The most complicated part of the game is remembering what has done what.

Other 8 bit versions of *Left Patrol* have been released by US Gold in the UK. So what happened to the Atari version written by Modestus? Does anybody out there know?

If you want to try and get hold of it the phone number is 016-412 581 5261 and the address PO Box 111023, Dept AT, Bensenville, PA 15238.

Now on to another game. You sure Atari doesn't all over the UK would want to own — *Strip Power*. True it is already available in the UK but what you can't get are the extra data discs of new players.

The original game supplied you with female players but you can now get a disc of males to strip too. There are also other discs of female players.

Priced at \$24 — or around £5 — you can get it from the same people who sell *Left Patrol*.

In the desktop publishing field an American company called *Springboard Software* has just brought out *Newsroom* for 149.95 — around £30.

You require an Atari XLXX with at



A stunning graphical adventure



Naughty but nice!

Turn to Page 14 for

1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 26

It is your birthday and your father has thrown a huge party in your honour. There are cakes, balloons and fireworks for your enjoyment. Everything is going wonderfully and your father announces that it is time to light the first salvo of rockets.

Up they go — and that's where all the trouble starts for you. Unfortunately, a flock of mutant giant birds were on their way south to warmer climates when they were hit by your rockets. Outraged by this intrusion on their annual migration, they attack the party below.

After some guests thinking you decide that the only solution is to fight more rockets and hit the birds as they come down the screen.

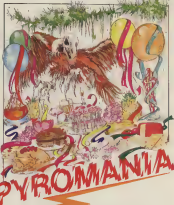
With lighted fuses in hand you must rush over to the row of rockets — stood in their milk bottle launch pads — and blind them into the night sky in a hope of killing the birds.

After typing in the listing check it with Ctrl-B and then save a copy to tape or disc before running it — a few links in the data statements could result in a crash and you could lose hours of hard work.

There are four levels of play which affect the bird's speed — slow, medium, fast and frantic. Use the Select key to choose the one you require and press Start to begin the game.

Use a joystick plugged into port one to position the laser and press fire to light the fuse launch pads. The birds come in waves of three and you start with 30 rockets. When they have all been launched the game is over.

A high score requires accurate timing. Watch the flight path of each bird carefully and avoid setting off all the rockets on one side.



You'll experience nerve tingling excitement when you play **STEPHEN WILLIAMSON's** fun game

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10 REM PYROMANIA
20 REM BY STEPHEN WILLIAMSON
30 REM 1.1 10.07.85
40 REM 1001111111
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Turn to Page 40 to

Link your Atari to the outside world with...

MicroLink

When you join MicroLink you've got the world of communications at your fingertips – 24 hours a day. You'll have immediate access to ALL the facilities offered by Telecom Gold ... and a great deal more besides.

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Teletext – Type in your message before 8pm and delivery is guaranteed by first post the next day (except Sundays) anywhere in the UK and USA.

Telexlinking – Receive telex and teletex tickets, check flight details worldwide or order from a vast range of products – from flowers to floppy discs.

Telexsoftware – Download directly into your Atari any programs from the ever growing library now available on MicroLink – both games and utilities.

Company searches – Obtain facts about any British listed company or company in Europe, and fully analysed financial information on over 120,000 major companies.

Translation – Access the biggest and most up-to-date multi-lingual dictionary in the world with over 450,000 words.

News – Use the powerful search commands to pinpoint vital business information from the world's leading news services, newspapers and periodicals.

Redupaging – If you also have a packet radiophone you'll be alerted with time-critical messages arriving on your mobile. So you're always in touch.

Getaways – Get through to 1000 banks in just five seconds – or key into the BBC computer or Lucentology, which links you to 800 databases throughout Europe.

All you need – apart from your Atari – is a modem, which plugs into your telephone wall socket, plus suitable communications software.

We have provided two possible options on the left.

Whichever equipment you use, you will be able to call MicroLink, open your mailbox, save to disc any messages waiting for you, and disconnect in as little as two minutes.



Two recommended packages

If you have an ATB interface
Price Nightgale's manual modem
+ cable £114.10 PLUS 800k
Office II £210.00
Total price £324.10

If you don't have an interface
AT cable (M0000) £51 V23 modem
+ Ocean interface + cable +
Skelton software
Total price £367.00

With either combination you can also log on to other destinations and travel to boards all round the world.



More than
50 per cent
of subscribers
can connect to
the MicroLink
computer at
local call
rates.

TO ENJOY OUR MICRO
LINK service and
avoid the extra charges
apply. You will receive
full details of rates and
conditions together with
an application form.
Complete this and send
it with your order to the
address below.

Please send my full name to MicroLink and information about the following hardware and software set and system card.

☐ Price package ☐ Minide package

Name _____

Address _____

Postcode _____

Send to: MicroLink, Pegasus House, Mollington Park, Salford, Manchester M6 6JF

07/89

Crush, crumble and print

Create your own superb labels with **GRANVILLE DANBY's** useful routine

This label printing program differs from most because it allows graphics to be mixed with text. The resulting size of the label is 7 by 4 ins, so fit comfortably on a floppy disc or its jacket.

The labels must be designed using a graphics package such as Graphics Art Department Painter, one which uses a Graphics 7-based screen. Pictures from art programs which use a different graphics mode will not work unless modified.

Only one colour placed in playback register 2 can be used. GAD assigns the default colour of green in this register.

The program can be divided into two main sections — loading the picture and printing it. A machine code routine is used to crush the graphics file into a label sized pattern on a 16 resolution screen.

Basically, two bytes of colour information are decomposed into one byte of monochrome data, and to show how the program does this, here's how the Atari stores its colour information.

In Graphics mode 7 there are 160

pixels across the screen using up 40 bytes of memory, each pixel needing two bits or one quarter of a byte to define it. All the possible combinations of 2 bits are shown in Figure 1.

Each pair of bits represent a colour register, so it can be seen that there are a maximum of four colours on a Graphics 7 screen. What the program does is to take every other bit in the file and plot it on the screen — see Figure 2.

This is how the two bytes of colour data are crunched into just one byte of monochrome data.

The second section of the program prints out the label. It will only work on an Atari 1050 printer, but if you own an Epson compatible machine, it is possible to add your own printer dump subroutine.

Before the program is run you must select the picture format. If you select Option 3 — any other format — you have to enter the number of data bytes providing the picture file. The number will vary from one art package to the next so I'll leave the convenience to you.



```

10: 1000: *****
20: 100: 0: 0000: 0000: 0000: 0
30: 100: 0: 01: 0000: 0000: 0
40: 100: 0: 02: 0000: 0000: 0
50: 100: *****
60: 100: 0000: 0000: 0000: 0000
70: 100: 0000: 0000: 0
80: 100: 0: 01: 0000: 0000: 0000: 0
90: 100: 0: 02: 0000: 0000: 0000: 0
100: 100: 0: 03: 0000: 0000: 0000: 0
110: 100: 0: 04: 0000: 0000: 0000: 0
120: 100: 0: 05: 0000: 0000: 0000: 0
130: 100: 0: 06: 0000: 0000: 0000: 0
140: 100: 0: 07: 0000: 0000: 0000: 0
150: 100: 0: 08: 0000: 0000: 0000: 0
160: 100: 0: 09: 0000: 0000: 0000: 0
170: 100: 0: 10: 0000: 0000: 0000: 0
180: 100: 0: 11: 0000: 0000: 0000: 0
190: 100: 0: 12: 0000: 0000: 0000: 0
200: 100: 0: 13: 0000: 0000: 0000: 0
210: 100: 0: 14: 0000: 0000: 0000: 0
220: 100: 0: 15: 0000: 0000: 0000: 0
230: 100: 0: 16: 0000: 0000: 0000: 0
240: 100: 0: 17: 0000: 0000: 0000: 0
250: 100: 0: 18: 0000: 0000: 0000: 0
260: 100: 0: 19: 0000: 0000: 0000: 0
270: 100: 0: 20: 0000: 0000: 0000: 0
280: 100: 0: 21: 0000: 0000: 0000: 0
290: 100: 0: 22: 0000: 0000: 0000: 0
300: 100: 0: 23: 0000: 0000: 0000: 0
310: 100: 0: 24: 0000: 0000: 0000: 0
320: 100: 0: 25: 0000: 0000: 0000: 0
330: 100: 0: 26: 0000: 0000: 0000: 0
340: 100: 0: 27: 0000: 0000: 0000: 0
350: 100: 0: 28: 0000: 0000: 0000: 0
360: 100: 0: 29: 0000: 0000: 0000: 0
370: 100: 0: 30: 0000: 0000: 0000: 0
380: 100: 0: 31: 0000: 0000: 0000: 0
390: 100: 0: 32: 0000: 0000: 0000: 0
400: 100: 0: 33: 0000: 0000: 0000: 0
410: 100: 0: 34: 0000: 0000: 0000: 0
420: 100: 0: 35: 0000: 0000: 0000: 0
430: 100: 0: 36: 0000: 0000: 0000: 0
440: 100: 0: 37: 0000: 0000: 0000: 0
450: 100: 0: 38: 0000: 0000: 0000: 0
460: 100: 0: 39: 0000: 0000: 0000: 0
470: 100: 0: 40: 0000: 0000: 0000: 0
480: 100: 0: 41: 0000: 0000: 0000: 0
490: 100: 0: 42: 0000: 0000: 0000: 0
500: 100: 0: 43: 0000: 0000: 0000: 0
510: 100: 0: 44: 0000: 0000: 0000: 0
520: 100: 0: 45: 0000: 0000: 0000: 0
530: 100: 0: 46: 0000: 0000: 0000: 0
540: 100: 0: 47: 0000: 0000: 0000: 0
550: 100: 0: 48: 0000: 0000: 0000: 0
560: 100: 0: 49: 0000: 0000: 0000: 0
570: 100: 0: 50: 0000: 0000: 0000: 0
580: 100: 0: 51: 0000: 0000: 0000: 0
590: 100: 0: 52: 0000: 0000: 0000: 0
600: 100: 0: 53: 0000: 0000: 0000: 0
610: 100: 0: 54: 0000: 0000: 0000: 0
620: 100: 0: 55: 0000: 0000: 0000: 0
630: 100: 0: 56: 0000: 0000: 0000: 0
640: 100: 0: 57: 0000: 0000: 0000: 0
650: 100: 0: 58: 0000: 0000: 0000: 0
660: 100: 0: 59: 0000: 0000: 0000: 0
670: 100: 0: 60: 0000: 0000: 0000: 0
680: 100: 0: 61: 0000: 0000: 0000: 0
690: 100: 0: 62: 0000: 0000: 0000: 0
700: 100: 0: 63: 0000: 0000: 0000: 0
710: 100: 0: 64: 0000: 0000: 0000: 0
720: 100: 0: 65: 0000: 0000: 0000: 0
730: 100: 0: 66: 0000: 0000: 0000: 0
740: 100: 0: 67: 0000: 0000: 0000: 0
750: 100: 0: 68: 0000: 0000: 0000: 0
760: 100: 0: 69: 0000: 0000: 0000: 0
770: 100: 0: 70: 0000: 0000: 0000: 0
780: 100: 0: 71: 0000: 0000: 0000: 0
790: 100: 0: 72: 0000: 0000: 0000: 0
800: 100: 0: 73: 0000: 0000: 0000: 0
810: 100: 0: 74: 0000: 0000: 0000: 0
820: 100: 0: 75: 0000: 0000: 0000: 0
830: 100: 0: 76: 0000: 0000: 0000: 0
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2960: 100: 0: 289: 0000: 0000
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Author's address: Department of Psychology, University of California, San Diego, La Jolla, CA 92037, USA.
E-mail: shawn@psych.ucsd.edu

SOFTWARE *Solutions*

Your programming problems solved by ANDRÉ WILLEY

HELLO again and welcome to this month's relaxed bag of technical and not so technical queries, ranging from screen output malfunctions to data storage problems. Let's start off with a letter from Mr A. H. King from Iye in East Sussex, who writes:

On a recent trip to the USA I spotted a bargain I thought too good to miss - an 80085, XPS81 disc drive and ROMM302 monitor - all for the equivalent of £104. I didn't want the monitor as the store kindly swapped it for a flight simulator if available. Because of the difference in TV systems, I also bought a cheap colour colour monitor for £40.

My problem now is compatibility. Our family already has two 80085 and XPS81 drive systems with which we are all extremely satisfied. My new American hardware which uses a 110V transformer, works better than either of the British machines. For example, the difference between display on flight simulator is it is off-centred on the UK system but shows a nice crisp blue and green instrument display on the US monitor.

I thought the American system safer for the XPS81 drive, thinking it would work with my UK standard 80085 - but it doesn't! The opposite also works though - a UK XPS81 drive with the American 80085.

Another problem is that my flight simulator II discs - originally purchased in the USA - will not run on my American system, although all part of our other programs work fine. Is it very difficult?

I'm a little puzzled by this one too. From your letter you seem to have done everything right - bought an NTSC monitor and used all the American products with an additional

240v-110v-converter. As you know the two major problems with imported equipment are the differences in mains voltage and frequency and the fact that America uses a different television system called NTSC - which is not compatible with our own PAL version.

One thing which might help is to buy separate UK 240v transformers from John UK, or order them through your local dealer. In the unlikely event that your problem lies with the mains supply itself.

This would allow you to plug the American product - with the exception of the monitor - directly into a normal UK mains socket.

Other than that, the drive should work fine with a British 80085. I contacted the people at Atari in this case in case they had some ideas any different. But the only comment they could add was that the drive's operating system may also should really be replaced with a US version for timing reasons.

Assembler problem?

Need a letter from Gerry Bowles from Ashdown in County Westmeath Ireland.

Recently I have started learning 6800 assembly language programming on my 8086, with the old Atari Assembler/Editor Cardridge.

When using the assembler and having already created and assembled a program, there is a useful facility to

track in single-step the machine code program using the T and B commands in the resident debugger. Since so much information is supplied for each instruction it would be much easier on the eye if I could monitor the various registers via the printer instead of the screen - either text having a coloured path as

1 000,00

1 000,00

If this is not directly possible, a routine to allow me to dump a full screen of information to the printer would suffice. Do you have any ideas which might help?

Thanks for your letter and I'm glad to say there are in fact two fairly simple ways to print out the text from the Assembler/Editor - or indeed any other language.

Firstly if you happen to use Sprint86 with your disc drive you can just type PRINT P from the main Dos prompt. This will cause all screen text to be sent to both the screen and the printer - or to whatever device you specify. After entering this in the Dos level, just type CAR and you're back in the assembler, with where mode still activated.

Alternatively you can divert all the computer's output to the printer. This

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All together, now

LEN GOLDING continues his Basic series by showing you how to structure your programs correctly

THIS month we bring together all the techniques learned so far, in a complete Basic game. To show how it's done, we'll dissect the game shown line-up listed on the following pages, which incorporates a joystick-controlled missile base, a randomly moving target and two types of weapons.

The objects can move over a background scene without disturbing it and the program includes sound colour and explosion effects, with full on-screen drawing.

Your missile base — gun for short — moves horizontally along the bottom of the screen under joystick control, firing missiles at a target that appears and disappears randomly. The target also shoots at you and if the two types of missile meet they will destroy each other.

If either target or gun is hit you get a full-screen explosion which again out any missiles still in flight. Because of the timing and dodging features, you have to keep moving to stay alive and stand any chance of hitting the target. Let's look at the game in detail. Line 10 contains four labels — names which are used to replace numeric constants. All four labels represent COLOR numbers, which identify a particular colour/character combination. For example 42 is an orange star and 178 is a yellow asterisk-like mark.

The advantage of a label is that it makes it easy to experiment with alternative values. For example, if you'd prefer the target to be a blue cross, just change the label's value from 42 to 171. Whenever the program encounters a reference to the target, it will now use a blue cross. This is a major advantage over raw numbers, and interesting names are a lot easier to follow than cryptic figures.

The labels overlap lots of the labels and variables used in the program together with their functions.

Lines 20 to 60 set up the initial screen, in Graphics 1 without a text window. Most of the work is done by subroutines which break the task down into simple blocks. This keeps the main loop code uncluttered — and much simpler to understand.

The subroutine at 760 draws a

background pattern of dots to prove that the objects can move across a playfield without disturbing it.

You can easily replace this subroutine with one that draws a more inspiring background, using PRINT# COLOR and PLOT just

remember to keep the gun back — horizontal line 19 — clear.

Line 40 draws the gun at its control position, then line 80 calls a subroutine to print the initial values for WTS and LWS, which were set on line 20. Line 60 jumps into the target

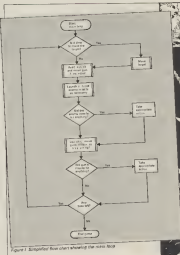


Figure 1. Simplified flow chart showing the main loop

movement subroutine skipping the first two lines because we don't need a sleep, and there's no previous target to move.

This routine draws the target of a randomly determined position, and calculates a random value for COUNT, which determines how long it will stay at that spot.

When intelligence is complete, you can start the main loop—the series of code which moves all the objects around on screen. Everything has to move twice or less simultaneously – you want to dodge the missile while it is in flight, not be stuck in one place until it hits you. This means that the various movement routines have to be interleaved.

^{***}Significant at the 1% level.

be complicated and difficult to debug. So instead we've adopted the *subroutine* approach again, which means that the main loop consists just five lines from 80 to 120. If anything goes wrong now, we can easily isolate the faulty section of code, and the use of subroutines makes it much easier to add code for

Figure 1 is a simplified flow chart showing how the stem loop works in principle. Session points are shown as diamonds and unconditional actions appear in rectangular boxes, as we've explained previously. Subroutines are indicated by a new symbol — a box with double lines for its vertical borders.

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COUNT to see whether it is time to re-position the target. If so, the target movement subroutines is called starting at line 188. This produces a short beep and moves the control target by giving the original background character over it. Then a point is reset, so we can draw three subroutines.

The next statement at the main loop = line 98 - jumps to the gun receiver main subroutines at line 282. This reads the joystick and uses a Boolean routine to calculate the gun's next position. We'll be talking about Boolean expressions in detail next month, so just treat line 280 as a "black box" for now.

Line 180 follows the run along its horizontal track. Something to an other time. Main line, we don't need to make line changes and avoid

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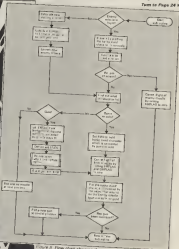


Figure 3. Flow chart showing the study selection procedure.

From Page J2

background characters — their COLOR number is always 0.

To move the gun we first erase it by plotting 0 at its current position (GPOS), then replot it at its new position (GPS). The gun can't collide with anything when it moves, so there's no need for any hit detection code.

Back to the main loop, and line 100 calls the sophisticated subroutine which moves the enemy missile. This routine is shown partially at Figure 3, so you can check its operation.

To keep things tidy we've used several variables as flags. These carry on/off information from one part of the program to another. GMPLAG holds the current status of the gun's missile — 1 if it's in flight, 0 if it has reached the top of screen, been destroyed or hit the target.

This flag can be read, or altered, at any point in the entire program, so all the subroutines keep in touch with each other. GMPLAG monitors the enemy missile's status, and GFLAG holds 1 temporarily when the gun has been hit so that line 480 can take appropriate action before returning to the main loop.

Now we're back to line 110, which calls a subroutine to move the gun's missile. The flow chart is almost identical to that in Figure 1, though the labels and variable names will be different. If the target is hit, the routine sets COUNT to 0, so that line 80 will draw a new target on its next pass.

Finally the main loop, line 120, checks to see if there are any lives left. If so, it repeats back to line 80, otherwise it drops through to the end of game routine at line 140, which is described in the next page.

The explosion subroutine at line 480 is called if a gun's missile hits the target, or an enemy missile hits the gun. It flashes the background colours in the way we described last week, and produces an explosion sound. If you're not happy with the effect, just play around with this subroutine — it won't affect any other part of the program.

Once you understand how everything works you can start writing your own variants, either by modifying the program or by using the various routines and techniques in games of your own design.

Next month we'll look at scoring techniques, and explain how these very versatile expressions can replace many lines of complex IF-THEN statements, especially in personal computer versions. We'll also show how you can use them to remove a few lines outside which Alan Bean doesn't publish.

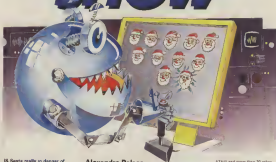
Variables List

TARGET	The COLOR number representing the target — an orange.
GUN	The COLOR number representing the gun — an orange.
GMSL	The COLOR number representing the gun's missile — a yellow.
EMSL	The COLOR number representing the enemy missile — a yellow.
COUNT	Number of target at its current position.
HITS	Number of targets destroyed.
LVAYS	Number of lives left.
GPOS	Current horizontal position of gun.
GPI	Next horizontal position of gun.
GMSH	Current horizontal position of gun's missile.
GMSV	Current vertical position of gun's missile.
GMSD	COLOR number of character controlled by gun's missile.
EMSH	Current horizontal position of target.
EMSV	Current vertical position of target.
EMSD	COLOR number of character controlled by target.
EMSH	Current horizontal position of enemy missile.
EMSV	Current vertical position of enemy missile.
EMSD	COLOR number of character controlled by enemy missile.
HOMSH	Horizontal position of gun, when screen was hit or launched.
GMPLAG	Holds 1 if gun's missile currently in flight, otherwise holds 0.
EMPLAG	Holds 1 if enemy missile currently in flight, otherwise holds 0.
GFLAG	Holds 1 if gun has been hit, otherwise holds 0.
S	Current value returned by joystick.
RGBAR	Loop variable used to drawing background.
COL	Loop variable used to vary volume in explosion routine.
DE	Loop variable used to set delay in explosion routine.

```

1000 TARGET=120:GUN=500
1001 GMSL=200:GMSD=0
1002 GMSH=0:GMSV=0
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ATARI CHRISTMAS SHOW



Is Santa really in danger of being replaced this year?

That question won't be answered until the Atari Christmas Show, when all that's new in software comes to light.

The theme is Atari in Entertainment – and that translates into games, games and more fun and games.

- Take part in the non-stop Big Game Highest Score Contest for a major prize.
- Drop in on the spectacular Atari Games Arcade.
- Visit the Atari Games Workshop and discover what makes a bestseller.
- Try all the latest chart entries before you buy.
- Choose your Christmas presents from many hundreds of bargain offers.

**Alexandra Palace,
Wood Green, London N22**

November 25-27, 1988

Fri-Sat 10am-6pm; Sun 10am-4pm

ATARI CHRISTMAS SHOW		ADVANCE TICKET ORDER	
<p>Free to: Christmas Exhibitions, Fantasy House, Antiques Fair, Antiques Market, Miscellaneous items on</p>			
<p>Please specify:</p>			
<input type="checkbox"/> Adult ticket at Christmas 10	£	_____	
<input type="checkbox"/> Child - 10 years and under 5	£	_____	
TOTAL £ _____			
<p><input type="checkbox"/> Cheques/credit cards payable to Christmas Exhibitions</p>			
<input type="checkbox"/> Please debit my credit card account		<input type="checkbox"/> Access	12796
<p>NAME _____</p>		<p>DATE _____</p>	
<p>ADDRESS _____</p>			
<p>Address to whom 25 May or 22 October 1988</p>		<p>Advance ticket orders must be received before November 15</p>	
<p>Please Order: Ring Road Books 0800 400000 Printer Orders: 0800 400000 Museum/Bookshop/Book Orders: 0800 400000</p>			
<p>Please quote credit card number and full address</p>			
<p>DATABASE EXHIBITIONS</p>			

Atari and more than 50 other exhibitors are determined to make this the most fascinating show ever held.

No matter which Atari machine you own – or whether you intend to – is entertainment on more serious computer activities – you'll find just what you are looking for. Plus a few exciting things you didn't even know existed.

All the latest big bangs in the Atari market will be out in time to demonstrate the latest breakthroughs – from the most startling of software through to the most innovative of hardware.

It will make us feel a Christmas spirit in your Atari Christmas.

HOW TO GET THERE

Alexandra Palace is so easy to reach by car, rail, underground or bus. In fact, it's open first, so that visitors just who require from King's Cross and there is a free bus service shuttling between the station and show early to 10 minutes.

■ If you're travelling by road, Alexandra Palace is only 10 minutes from Junction 28 on the M25. Car parking is free.

SOUNDS FANTASTIC

FIRST PRIZE

This is the new stylish silver coloured cassette radio which at first glance looks like a sports bag. It comes in black or blue and is complete with pockets for your accessories. As you would expect from Sony it incorporates the very latest in technology.

- Automatic music search
- Tape control
- FM medium wave reception

Sony Soundbag cassette radio worth £150



SECOND PRIZE

Sony Sports stereo cassette radio worth £30

This bright, prime water resistant radio, complete with stainless steel, bright light, bright headlights and a compact and light. You can use this on motor power or when you are out and about. Its many superb features include:

- Dolby B noise reduction
- Auto tuning
- Auto reverse

THIRD PRIZE

Sony Sports Walkman worth £30

This is another of the new Sports range. Fit as easily into anyone's lifestyle with all the features you could want from a Walkman wherever you like to listen to. And watch out for these features:

- Solar alarm clock
- Double headphone socket
- Rechargeable battery



WHAT YOU HAVE TO DO

Simply complete the correct answers to the four questions below. All of these refer to the Olympic Games, inside and outside. Once you have chosen your answers fill in the entry form and send it (or a photocopy) to arrive no later than November 30.

15 RUNNERS UP PRIZES

5 Cruiser pistolas worth £12.00

The new latest in pistols from Powerplay are on offer. The new Cruiser has a slim body and is easy to use. It features:



10 Cruiser pistolas worth £12.00

With black or blue bodies these Cruisers have an adjustable collar allowing them without necks.

So enhance your pistols to full your playing style and give yourself the edge when playing your favourite game.



QUESTIONS

- Mark Spitz won five times for his gold medals. In which sport?
 - a) Diving
 - b) Swimming
 - c) Pencil
- Steve Nouri has run all over the world, but which town is his home base?
 - a) Wolverhampton
 - b) Sunderland
 - c) Manchester
- The Modern Olympic Games changes venue each time, but where was the origin?
 - a) Greece
 - b) France
 - c) China
- The Star Challenge of Fire concentrated on the events of which Games?
 - a) 1908
 - b) 1932
 - c) 1924

ENTRY FORM

1. _____ 2. _____ 3. _____ 4. _____

Name: _____

Address: _____

Postcode: _____

Now send your completed form to:
Cruiser Competition, Alan Lee, Europa House,
Aldington Park, Aldington, Maidstone ME20 4AP

DRACONUS

The making of a legend



NEIL FAWCETT takes a look at a new game and a new software house supporting the 8 bit Atari

OUR spectacular front cover this month shows how creatures from a sensational new game called *Draconus*, released by Caprice, linked with the budget company Zeppelin — remember *Zybox* and *Speed Ace*? — it is promising to support the 8 bit Atari market by producing value for money, full-price games.

Caprice was formed soon after Zeppelin Games came to terms with the owners of its 8 bit titles. Massive sales and a number one spot in the Gallup chart — by both games — for a number of weeks, with show that there is a good market for Atari games.

Zeppelin produced the Commodore 64 version of *Draconus* and it received a magazine's Silver Medal award. After this success it was decided that the Atari was capable of equalling the quality of the 64 version — and hope fully its financial success.

So a sister company Caprice was formed and 22 year old programmer Ian Copland began writing *Draconus*. He saw this as the peak of his programming career. '*Draconus* is the best game I have ever written, and I feel it is the best game ever written for the 8 bit Atari.

Based in Newcastle upon Tyne — and not a million miles away from Zeppelin — I found Ian putting the finishing touches to the game.

He has, over the years, written a number of games for several software houses. The number one best seller Gun Law for Masterforce was his first, closely followed by *Space Hawk*, which came out on a Microvalue budget pack.

Next came a joint effort with his sister Maurice. The excellent shoot 'em up *Thundercat*, released by Code Masters, was yet another best seller. Ian got his first Atari in 1983 — an old 600 and tape deck. He started programming in Basic, but soon found out that it wasn't the correct environment for him.

So in 1985 he bought an 8080, 1050 disc drive and Assembler/Editor cartridge, the perfect machine code tool with which to write games. However he found his Assembler cartridge wasn't powerful enough so he bought the Mac 65 which is still in use today.

Then Jobling — Zeppelin's software director and author of *Zybox* and *Speed Ace* — has coordinated the writing of *Draconus*. 'Ian is one of the few programmers who has the ability to write a game of this calibre on the 8 bit Atari,' he said. 'He is dedicated to his work and loves his 8 bit. What more can you ask from a programmer?'

I was fortunate to know how the game

to start working for Cogeco. "That's easy to explain," said Allen. "He came to work for Apple in on work space while while he was at college taking a computer science course. I quickly realised he was a very competent programmer so I showed him the Core modern version of Dragonair. I asked him if he could write it and he said he could. The rest is history."

Shortly after this he began working for the newly-formed company, and has never looked back since. "It's hard to be able to work with people who appreciate the quality of the 3 bit Atari," he said. "And ones who are also willing to support the machine to the full."

What of the future? Brian Jobling said: "After the initial success of 200 pairs of sides and the almost instant sales success of Dragonair from Cogeco we are intending to go into a joint venture and release a trilogy of games."

"They have been brought out in just about every other area and have been a huge success. We thought it was very unfair that America in the UK didn't have a chance to play them too."

The game

Dragonair is set on an alien planet ruled by an evil heart beast which must be destroyed. Only by doing this can the planet return to more peaceful and happy times.

You control both major game characters: Dragonair and Program which share the same body. When you stand on a Morph Slab and pull down on a joystick you can transform between the two.

Program who plays the major role, can walk, jump, punch, duck and breath fire. Although Dragonair cannot, these fire breathing dragons he can blow a powerful water jet to kill other monsters.

Together the two form a very strong fighting team, interpenetrating every thing needed to destroy the tyrant.

Throughout the labyrinth that you must traverse an countless slabs that fire and waiting to maul you - or eat you. They include giant rats, cats and monsters (monsters, caterpillars and some blobs. The last are balls of green matter which hang from ceilings and drop off when you enter. When they hit the floor they become around in mid-air causing you even more problems.

However, not everything is there to kill you. Several key crystals have been scattered around the labyrinth and you must collect them to gain a



Like any Morph can be a little tricky

chance of getting to the final screen and battle the final beast.

The artifacts are: The Damas shield, morpho-war staff, dragon's eye and the Morph balls. Blocks of stone, dust and energy crystals can also be found around the caves. When you drink the contents of a flask it will allow you to create 10 good blocks of fire. When the crystals are ingested they will automatically put your energy rating back up to full.

The graphics are brilliant. The graphics artist Michael Owen has done a wonderful job of the look drops for the screen. Michael Owen has been there with over the smallest detail.

One thing I like in a game is a subtle signature line. Now Adam Griffiths the music expert at Cogeco has excelled himself by writing a musical score that accompanies the

superb title screen. Other sound effects have also been written with great care. I loved the swishing noise you hear every time you do. The sequence is also accompanied by Program splitting into two and blood spouting from the corners of his face - very gruesome.

The final test you must destroy is the final screen is one of the most terrifying creatures I have ever seen in a computer game. It consisted of a the weather system from the Adams movie - fog, moon and with large teeth. A wonderful graphical creation from the mind of Michael Owen.

When Ian Copeland said that Dragonair was the best game he has ever written for the 3 bit Atari he wasn't far wrong. It's really addictive. Buy it!



Like any Morph can be a little tricky



Word processor



Database



Spreadsheets



Six modules in one powerful package ...at a price that can't be matched!



Labels



Mail merge



Graphics module

Mini Office II is the highly-acclaimed, award-winning state of integrated programs which will turn your computer into a versatile business machine.

Look at some of the tasks you can perform with the six separate modules:

- Compose a letter with the **WORD PROCESSOR**. Set the printout options using embedded commands or menus and use the mail merge facility to produce personalized circulars.
- Build a variable card index with the **DATABASE**. Use the flexible printout routine, the powerful multi-field sorting, perform all arithmetic functions and link with the word processor.
- Design the layout of a label with the easy-to-use **LABEL PRINTER**. Select label size and sheet format, read in database files and print out in any quantity.
- Prepare budgets and tables with the **SPREADSHEET** module. Total columns and rows with ease, copy formulas absolutely or relatively and recalculate automatically.
- With the **GRAPHICS** module you can produce pie charts, overlay line graphs and display bar charts side by side or stacked. Enter data directly or load data from the spreadsheet.
- Using a module with the **COMMS** module you can access services such as MicroLink and order a wide range of goods from flowers to software and send instant electronic mail, fax, telex and teleconferencing.

What the reviewers have said.

“Tremendous value for money and its current success is truly well deserved.” — *Soapbox*

“Little short of miraculous at the price.” — *Amiga User*

“Makes some of its near priced competitors bang their heads in shame.” — *Commodore User*

“Voiced Business Program of the Year two years running in *Popular Computing Weekly*.”

It's no wonder that there are **MORE THAN 400,000** satisfied users across the computer Mini Office range — the ideal package to increase your personal productivity.

Name <input type="text"/> Surname <input type="text"/> Title <input type="text"/> (date received)		Date <input type="text"/>
<input type="checkbox"/> I enclose cheque payable to Database Software <input type="checkbox"/> Please debit my Access/Visa number		Card No. <input type="text"/>
Expiry date <input type="text"/>		Name of <input type="text"/>
Address <input type="text"/>		Database Software Europa House Aclington Park Aclington Macclesfield SK10 6EP
Telephone <input type="text"/>		Telex <input type="text"/>
Fax <input type="text"/>		Order books direct always
DATA BASE SOFTWARE		

If you have been looking for a league table program look no further. Enter the results from the main screen and this program will calculate the table for you. Originally written for football results, it can be used for any other table with the played, won, lost, for, against and points format — use the program modification panel.

Once all the relevant data has been input and calculated the program will save it to disc for you — sorry cassette users, it would be too slow to use a tape as a storage medium. You can also create hard copies of your tables with any 80-column printer.

The best way to use the program is to save it on its own disc. Format a blank disc and save Dos files to it — option H on Dos 2.0. This will leave plenty of space for the data files the program will create. Now type in the listing and check it with Ctrl G (right). Once you're sure there are no mistakes save it to your newly prepared Dos disc.

It is important you leave this disc in the drive at all times. When first run the program will check to see if any table data exists on it. At the moment there is no it will default to the initialization screen. Just follow the prompts to set up your new table.

Enter the teams in alphabetical order — this will be useful when entering data later. A team name is limited to a maximum of 14 characters in length if you exceed this you must re-enter it. On entering the last name the newly created table will be saved to disc. Be very careful at this stage, you may overwrite an existing league table if you're not careful.

This may take some time because all team information will be set to zero and the data is calculated in four sort levels. The sort order is: highest points, goal difference, goals for and alphabetically. Your disc will now contain four data files and, returning all is well, you should see the menu screen.

This means that when you next run the program the new data file will be loaded and the menu screen will appear. Your options are:

- 1 Enter results
- 2 View league tables
- 3 View fixtures
- 4 Search fixtures
- 5 History tables
- 6 History fixtures
- 7 Enter team data
- 8 Toggle printer status

You have now reached the stage where you have to enter the team results. After selecting option 1 you

Join the **BIG** League



Create your own fixture tables with **MALCOLM DOMONE's** neat program

will be prompted to confirm your selection — press Y followed by fixture. The screen will change to show you to enter the results.

Use the + and - keys until the home team appears on the screen. Press Return to make a selection and the same will show back on to the screen. Enter the team's score and then enter the away team and its score in the same way. Once you have made your

entries the fixtures will be saved to disc followed by the league table area if has been calculated. You will then be returned to the menu screen. At the moment the printer status will be set to Off.

If set to On any information going to the screen will also be echoed to the printer.

Ensure your printer is connected.
Turn to Page 23 >

10

fabulous
programs
from your
favourite
Atari 8 bit magazine!

SPECIAL BONUS

Now you too can get Ten of the Best games
and 1. Ten of the Best games vol 1, Ten of
the Best vol 2 for only £7.95 - and
even £2!

Due to the tremendous success of the last Ten of the
Best compilation we have compiled a new disc full of
the most exciting games that have appeared in
Atari User over recent issues.

There are stunning shoot-
'em-ups, challenging
simulations and thought
provoking strategy
games alike

All this
for just
£4.95



Jet Set Willy



Asterix



Battle of Britain



Guide Post

Ten of the Best Games Volume II

Colour Puzzle - A mind-boggling brain teaser
designed to confuse and baffle! Match the
coloured squares in this version of the tradi-
tional sliding block puzzle.

Area Treaties - Classic arcade fun puts you in
command of a highly sophisticated military
helicopter. Your mission: To protect the town of
Rodeville from ruin.

Reversi - Can you beat the computer in this
advanced version of the classic Othello board
game?

Light Gun Blaster - The first ever listing for the
XG games system. Blast the coloured squares to
beat the clock using the light gun.

Miss Runner - Guide your underground explo-
ration vehicle through increasingly difficult
levels of mindboggling tunnels and dangerous
obstacles.

Breakin' - Fast and furious arcade action in our
version of the classic bat and ball game
Breakout. Try your skill against the different
bunker patterns and fatal ghosts.

Salmon Run - Experience the thrill and
sense of being an expert of naval warfare as
you hunt the oceans for enemy submarines.

Tyrants of Tomorrow - Can you save the world?
Armed with your super hi-tech bouncing buggy
you are the last hope against the evil dictators.

Gay Pigeon Shooting - Test your accuracy in our
fast action shooting game. How many birds
can you bag today?

Big - Saloon gambling in the Wild West as
you take on three of the meanest card players
this side of Dodge City. There may be more at
stake than just cards.

TO ORDER PLEASE USE THE FORM ON PAGE 47

When using this option, an error message may occur if it isn't. If you don't have a printer, follow the instructions in the modifications panel. Most of the other menu selections are obvious but others require some explanation.

Option 3 will display any ledger table. Enter the date of the table required and the program will search the disc for it. If a table doesn't exist for the date entered a message will appear on the screen.

Option 1 can be used to get off from any. The first is to change team data and the second is to allow data to be entered by the program during a season if games have already been played - for example, setting up a new season table.

Once selected you will be asked to confirm your option with Y or N. Enter the date - this should be later than the one shown - and the current ticket date will be displayed. If no change is required just press Return.

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The same features sponsored by Parsons. A design will take the road's surface to a new level, which is to be developed.

If the error is made on an entry the item will be re-displayed and all the data will have to be re-entered so be very careful what you type. When the

changes have been made your new table is calculated and then re-sorted.

And that's it. Enter your data now, but be careful when entering data on errors and not easily corrected after pressing **Store**.

PROGRAM BREAKDOWN

80	100	Transfer variables
100	200	Transfer subprograms
200	250	Load a program table from a disk
250	300	Save a program table to disk
300	1500	Load a history table from disk
1500	1550	Save history
1550	1600	Calculate program table
1600	2100	Print table to screen or printer
2100	2150	Factor length
2150	2500	Save results and save to disk
2500	2600	Read history from disk and display or print it
2600	2650	Print on D100 routine
2650	3200	Enter program name and the theme it
3200	3470	Read or change the last one

The program also shows awards these points for a win. If your table awards a different number you will need to replace the 3 at the end of lines J400 and J410 with the new value.

If you start a career in business today, you'll be working for a company that's part of the future. And that's a good thing.

Table 1

They will submit the printer layout
forward. It is understood

[illegible]

```

1000 PRINT "PULS 1: IDENTIFICAZIONE DEL PUL E DEL NOME DEL  

1010 NOME DEL PUL: "
1020 GOTO 1030 IF NOT (PUL = "PUL")
1030 IF NOT (PUL = "PUL") GOTO 1040
1040 IF NOT (PUL = "PUL") GOTO 1050
1050 PRINT "PUL: "
1060 GOTO 1070 IF NOT (PUL = "PUL")
1070 PRINT "PUL: "
1080 PRINT "PUL: "
1090 PRINT "PUL: "
1100 PRINT "PUL: "
1110 PRINT "PUL: "
1120 PRINT "PUL: "
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2000 PRINT "PUL: "

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1. 下列各句，没有语病的一项是（3分）
 A. 在“一带一路”的宏伟规划中，中国正以开放的姿态，向世界展示其巨大的市场潜力和广阔的发展前景。
 B. 随着科技的飞速发展，人工智能已经广泛应用于各个领域，极大地提高了工作效率和人们的生活质量。
 C. 通过这次活动，不仅让同学们增长了见识，还锻炼了他们的团队合作精神和沟通能力。
 D. 为了响应国家的号召，许多企业纷纷加大了对环保事业的投入，以期实现经济效益和社会效益的双赢。

[illegible][illegible]

[illegible]

TIME once means more to dig into the mailing and see what seasonal advice and solutions tips our readers have for Bulletin Board adventures. Although shortage of time and space means that it is not possible to deal with all of your letters, and that sometimes there may be quite a wait to see your own message mentioned in these pages, do not despair.

I do try to get round to as many of your letters as I can so keep on writing in — the fear of messages says you're bound to some sooner or later.

First out of the stack comes instant relief for all frustrated Knight One players: thanks to Andrew (J Harts) of Bradford in Cumberland. Although it was a little while ago now, Andrew has supplied a detailed solution to the challenging adventure, the first part of which you will find over the page.

In return, Andrew would like some help with Arden on adventures which I repeat have rarely played never having been a big fan of mass-based games.

The new gold and silver sword, stethoscope, bind, costume, copper wire and battery are already in Andrew's possession but if you can help him further please phone him on Cumberland 724466 or write to him at 72 Sea Nerve Way, Baltham, Eastford, Cumberland CA8 5JA.

Arno (Brouwer from the Netherlands) is having a problem with the Guild of Thieves, grandfather who is getting very annoyed, prohibiting Arno from digging a grave. Sorry Arno, but the guildmaster is helping you in a way — you don't need to go digging in the cemetery. What you do need though is talking from one of the grey thills nearby — and that is better. So get on — the guildmaster won't mind.

Another problem he has with the same adventure is the square size. For Arno and other adventures, I suggest that you look at your map and note the pattern of the locations surrounding the room with the tree. It should remind you of the five spot side on a die. Roll all the dice until they each show a five, pop them in the appropriately coloured slots and the case should open up for you.

According to Arno, it isn't my feet that are too big — it's the rest of my body that's too small! I've not seen it, but I'll accept it as you say.

Dave (Dempsey from Bracknell) has had an Alan computer since last Christmas, but is being driven round the bend by two adventures he bought — Check of Death and Quest For Hermy.

As I said in the July issue, I would

There's light for the Knight, but a grave problem follows

not recommend these two games to anybody new to adventures. They are short on vocabulary and long on verbiage.

My plan for help with the adventures fell on deaf ears earlier this year, so, I suspect, because few adven-

ture wrote to him at Millers Cottage, 60 Beesvale, Newnham, Notts NG16 2JY — and don't forget to enclose a fee.

There's just room to say thanks for various hints and tips to Richard Mardock of Crews (The Peapack), David Telford of Dublin (The Mouse in the Chair) and Thomas Holder from Parkstone (this top ten appears here).

Until next month, keep your sword sharp and your lamp lit!

THOMAS'S HOLDERS' TOP TEN

- 1 Delta Quest
- 2 Earth in Space
- 3 Attack of the Sun
- 4 The Pyramid
- 5 Leather Goddesses of Phobos
- 6 Atlantis (German adventure)
- 7 The Dark Crystal
- 8 Time and Magic
- 9 The Seven Cities of Gold
- 10 The Adventure Writer

tures have paraded with these tough and frustrating puzzles. I haven't either — the advice is to switch over to playing one of Level 1's games. If you really want to find out what a good modern adventure should be like.

Gandeglar from US Gold, is not an adventure I am familiar with but it comes highly recommended by Christopher Seed of Morte. Christopher has sent in a list of his recent, in addition to his favourite, adventures, and has something to say about Gandeglar in which a number one in his list of dislikes and which he describes as "absolutely pathetic as well as impossible". You have been warned. Christopher knows a thing or two about Atlantis. Really I and N, so if you want some

by
Rouloc



HINTS AND TIPS

Reigns are — Part 2

MEAR climb, get halfway down the rope, get better than you. All Green Reign's have and get more, get working like you can't lose, get more than you can, get everything from the world but the treasure.

Red Reign's are on shore hedges and climb over. Get Reign's a few and get it. Go to castle, get more, show it at the bridge, get it again, go on and drop it. Go on again, unlock chest, open it and take card. Go to tower and give him the key. When he's back in tower, dispatch him and get the key.

Go to wall, be all right, pieces of "Reign" together, be able to roll.

climb down, get better. Up and get rope. Tie rope to tower, tie rope to tower at entrance and wait for tower. Get last item and get it to rope. Get more than you, be it to rope, go to get, show more at ring — and Ring!



Magical moments

Program: Time And Magic
Price: \$19.95
Supplier: Mantic Software, Europe
Manufacturer: Mantic Software, Europe
Website: www.mantic.co.uk
Get: 2000 000000

TIME and **Magic** is a welcome bargain package of three first rate adventures from one of the country's leading experts in the fantasy field. Level 3 The Trilogy is one of the first releases by a new company, Mantic Software, which has judged wisely in putting Level 3 products as its initial entry into the marketplace.

Level 3 has always offered good value for money and adventure hungry gamers will be well pleased with this latest crop.

The Trilogy comprises *Level of Time*, *Red Moon* and *The Price of Magic* and although none of the three is new, they are some of the best ever produced by Level 3. All have been updated.

Level of Time involves you in a search, through various ages, for rare mythical objects — a golden egg, a dragon's egg, an olive branch, a dragon's wing and a sword. To name a few.

It seems that the evil Time Lords have been trying to rebuild history in their favour and it has fallen to you to

try and repair the rent in the fabric of history.

Yes, the time travelling device of a grandfather clock, the host will take you, in almost any order you like, through the Ice and Stone Ages, across the times of Rome and Vikings, past Medieval and Tudor periods, right on up to the present then forward to the future and the future, now again at all.

One of three happens to be one of my favourite Level 3 adventures, but hardly because many of the puzzles are as engagingly challenging and the theme is very nicely worked out.

Red Moon revolves around a crystal, the source of all magic, which has been stolen. It is your job to get it back. There are more treasures to be collected along the way than in *Level 3* have a parchment for the number nine! **Magic** features prominently — there are a dozen spells available, most of which require a specific item for them to be effective. **Red Moon** was much acclaimed as its original release including being called best adventure of 1986 by several magazines.

The Price of Magic is a direct sequel to **Red Moon**. The job shifts to your endeavours to defeat Mizar, once a good sorcerer now gone bad. The adventure features an even stronger



magical element (with 18 spells to learn). The **Price of Magic** also has its own combat system and there are a goodly host of independent treasures which you may, given the right circumstances, be tempted to do your bidding.

Time and Magic is unquestionably good value for money and an adventure is likely to be disappointed with the volume of puzzle, location, pose and fun that this trilogy offers.

Presentation	8
Atmosphere	7
Plot/Content	8
Value for money	8
Overall	8

Even if you don't care a fig for Forth, think of all that lovely speed

EARLIER this year a computer magazine published a complete list of benchmark results covering a range of micros and languages. The *Archimedes* came out on top, but coming a close second was the ST. No real surprise there, but which language gave it the turn of speed, *Fortran*. Module 2 or 3? It was none of these. A public domain language called *Fig-Forth* took the honours.

Atari 5 forgers will be pleased to know that fast and versatile language is now available for their machines. It may not be able to match the speed of the ST version but it can knock spots off *Alan Watts*.

Fig-Forth is one standard of the language *Forth*, as defined by the American *Forth* Interest Group. Other standards include *Forth 78*, *Forth 83* and *golf-Forth*, the former being implemented on the Atari as *Go-Forth*.

All are similar to each other in being very different to most other languages. Two features central to its design are the use of a stack and the role of the word.

The stack is the route for all processing — it's a list in fact and data structures which will be familiar to machine code programmers. You can think of it as a pile of numbers with only the top one being accessed at any one time.

However, *Forth* provides various ways to add, remove, do arithmetic on and juggle about these numbers very quickly. The word is the basic unit of construction, the core words of a *Forth* system are normally defined in machine code but most other words are made up of words themselves.

A program in *Forth* is merely a word which performs the desired function and is built from words which in turn are built from other words which in turn — well perhaps you get the general drift. An example of a word is shown in Figure 1. If used it should be added to one of the editor screens, it will automatically list the next screen to the one last listed.

This extensibility makes *Forth* very powerful, as it enables the user to build his or her own language to suit a particular set of tasks.

I have already mentioned that *Fig-Forth* is traditionally a public domain language, in fact versions are available in many PC libraries for just a couple of pounds. However, *Pulsar Software* is selling its implementation for £14.95. So what do you get for your money? A manual is the most obvious benefit, but there are also some useful calculators to the basic language such as a mouse handler for a standard ST mouse.

The language comes on a double-sided disc, the first containing the language kernel and *AUTORUN.BY5* file, and all the *UCS2.5* files you need. The second side contains 134 *Forth* screens, each taking up 16. Most are empty but a few contain word definitions for the various extensions you require. Those of you with much residual mind will have worked out that the disc is formatted in enhanced density. This is tough on *800* owners, myself included.

I initially thought this may just be a quirk of the review copy, but after

COLIN BLACKBURN takes a look at a recently expanded version of Forth, formerly available only as a public domain program

borrowing a 1050 drive I realised the language was designed with this device in mind.

For instance, the disc eager, which is part of the extensions, copies 134 screens rather than the 80 which would be found on a single density disc.

This can be altered fairly easily, but it is a short legend on *Pulsar* (part as this disc will not even boot on an *800* drive). The *AA* format manual is 40 sheets of duplicated typewritten bound with one of those great 4 sides open. It hasn't been written as a guide for the beginner, but is simply a systematic list of all the *Forth* words with a few appendices on error messages and the like.

Rather hard on beginners

I would have preferred a little more detail in some of the word descriptions, but the author has recommended a couple of excellent books which will help the novice get to grips with the language. I will repeat the recommendations for those of you who would rather read about the language in detail before buying. They are: *The Complete Forth* by Alan Wyllie (Sage Books) and *Learning Forth* by Leo Brodie (Prentice Hall Books).

Although *Forth* can be used in an interpretive way, directly entering new words at the keyboard for any real applications the words need to be saved to disc thus slowing them to be compiled. This means an editor is required and one is provided as one of the extensions. It is fairly simple but will allow screens to be enhanced.

Unfortunately the *Forth* words (and

If it were defined by the editor, in print too, this makes testing programs which use them difficult. The editor can be altered to get round this, and at the same time it can be improved by adding a few extra commands. But Palser should have provided a more comprehensive editor in the first place.

The screens I have mentioned are made up of 16 lines of 64 characters each. This is best conveniently fits a screen on an 80 column system, but the Atari 40 column mode full screens look weirdly since the lines wrap around.

One solution is to restrict lines to 32 characters, but this means that half the disc space is wasted. Palser should have considered breaking with the Forth fix tradition and had screens of 16 lines by 32 characters to save problems later.

Printer left out in the cold

The Forth system itself seems to be a complete fig-forth implementation with the necessary Atari-specific words added. Graphics, island commands and disc IO are all supported, but annoyingly there are no words for sending any output to a printer. The appropriate words could be added by anyone with some knowledge of 6808 commands, which are covered by the language, but a beginner may run into problems.

There are a few minor bugs in the language. Occasionally the system resets up when I deliberately tried to

- ```

W The editor begins all word definitions with W.
1 The number one is put on the top of the stack.
SCR This variable holds the current screen number. Executing a variable puts the memory address on the stack rather than the value of SCR.
+1 Adds 1 on to the address. For example: SCR+SCR+1.
L Lays the address whose value is in SCR out to a word defined in the editor. The semicolon ends the definition.

```

Figure 1. Example word used in fig-forth.

take the top number off an empty stack. When the stack is empty an error should result if attempts are made to remove a value from it. This doesn't always happen with fig-forth. Also, sometimes with bank first lines don't always compile. Both bugs should present no problems if good

programming practice is followed.

Fig-forth normally contains in-line assemblers for some critical definitions. Fig-forth has the necessary words but contains no hint as to how the code should be entered. A small chapter in the manual would be very welcome along the textbooks on standard Forth. It is not usually machine specific.

### Mouse or mine?

The most interesting extension to the core of the language is the inclusion of a mouse handler which can read the second physical port when an ST mouse is plugged into it.

There are some restrictions on its use. Since it replaces the Policy chip, sound channel 2 cannot be used if the mouse is enabled. Also the right mouse button is not used.

A simple sketch program is included on the disc and is a useful introduction of how to use the mouse. Unfortunately the documentation which accompanies it is a little sparse, and if you aren't familiar with Forth you will have problems.

I found the mouse handler an interesting feature but £34.95 seems a lot to pay for it. However, if you buy Forth and the handler for £15 the package seems to give value for money.

If the documentation was clearer for a novice and showed in clearer detail how to use the mouse from within your own Basic programs, it would be a superb buy. As it is, I would say it is more for the advanced programmer.

The disc includes several programs - an editor, two disc copiers, the sketch system and additional words supporting player-mouse graphics and some programming tools. They are of varying use, but can really be

dropped from the disc to make space for your own words.

The screens operating these words are started over the entire disc, and it would have been better to have them all lumped at the bottom screen numbers, allowing the rest of the disc to be used more easily by the programmer.

Finally, the disc has some of the words necessary to run the language into Forth 78. This is not complete and omits the word J, but again, words such as this are easy to add once you have got to grips with the language.

### On balance perhaps not

So is Palser's fig-forth worth buying? As a language Forth is generally worthwhile. Its speed, simplicity and extensibility make it an excellent language for many applications. However, there are other versions available for the Atari machines. The public domain fig-forth may not have drawbacks, but the discs tend to be covered with documentation errors and useful - and not so useful - comments.

On the other hand, commercial Forths are also available. Go Forth is a 78 standard with numerous extras, including two enhanced editors and a very technical manual costing around £20.

Palser's fig-forth falls somewhere between these two at £34.95. However, a late reviewer with a more advanced editor, printer handler and availability of a single density disc version would offer excellent value for money.

**Product: fig-forth disc**  
**Price: £34.95 (ST) with an ST mouse**  
**Distributor: Palser Software, 4 Church Hill Road, East Street, Northfleet, Kent**  
**Ref: 03460 0000**



# The VCS System

This month NEIL FAWCETT casts a critical eye over several game cartridges

In the first part of this series I took a detailed look at the VCS 2600 and explained what it was. Now that you are all familiar with its workings and have decided whether or not you

want to buy one you will be asked during what the software is like. So let's examine a few games and a couple of products aimed at children's education.



## Sport in the snow

**Product:** Winter Games  
**Price:** £14.95

**Supplier:** Palen Electronic Products  
Music Instruments Industries Estate  
Bromwood Way, London W11 1BB  
Tel: 01 226 8855

THIS excellent rom cartridge from Epox gives you the chance to compete at a series of seven exciting winter sports. Designed to be played by up to eight people it can't be turned into a truly international contest with each individual representing a different nation, but no two people can choose the same nationality.

You can compete in eight speed events like skating or in speed and control events like the slalom, bobsled and luge. If those don't appeal you can

test your digital dexterity on the ice jump or hot dog riding. The nation that scores the highest points will take home the coveted gold medal.

Once you have selected the number of players and their nationality you choose the event you want to compete in. Slalom, bobsled, ice jump, hot-dog speed skating, hot dog or luge.

The object of the slalom is to make the best time down a course while weaving in and out of a set of gates marked by a pair of flags. Pressing the fire button starts your skier down the slope and you control his motion by moving the joystick left or right. Use timing advice can also help slow her down.

Each time you miss one of the 36 gates you incur a three second time penalty. Avoid hitting any obstacles or persons – especially the trees, which hurt – or you will be slowed down considerably. All time penalties are added at the end of a run.

As with the slalom, the two-man bobsled is a speed game. The aim is to negotiate a winding twenty course in the least time possible. Don't go too fast though or you will end up crashing.

You can control your sled round the tight, banked corners by moving left and right. To speed up the sled you have to tug the joystick up and down in a constant rhythm. You can regulate your sled speed by the speed indicator at the bottom of the screen or the order the last two letters you are given.

The ice jump will demand your fastest concentration if you don't want to break your skier's legs. A split screen shows your position and the hill below.

You will cover the greatest distance during your flight if you maintain a stable diagonal position – and don't forget to extend your skis when it comes to the landing.

The bobsled requires a combination

of speed and accuracy. It's an event involving tight country skiing and shooting. When you're on the course it will be indicated by a firing range.

There are 16 targets which you must shoot as quickly as possible. A five second penalty is added for each target missed.

Speed skating is the simplest of the seven events. Unlike your controls from left to right is whether to build up speed and the first across the line wins.

Hot dog is the ski acrobatics event, and points are awarded for the most original and complicated jump made. I added the post-it like a madman in order to perform several somersaults in a matter of seconds.

The final event is the luge, basically a one man bobsled event. You have three tries to make it quickly and safely down the chute.

The graphics and sound effects are – for a 2600 game – very good. What makes this cartridge great value for money is its playability. If you like sport simulations give this one a try.

## Run in the sun

**Product:** Summer Games  
**Price:** £14.95

**Supplier:** Palen Electronic Products  
Music Instruments Industries Estate  
Bromwood Way, London W11 1BB  
Tel: 01 226 8855

AS with winter games, up to eight players can participate in this competition. Each can choose a different nation to represent. The seven different events are basketball, swimming, sand shooting, 100 yard dash, swimming relay, gymnastics and rowing.

Four games, basketball, olympic, rowing



## Useful child's play

**Product:** Cookie Monster Munch and The Kid's Controller  
**Price:** Kid's Controller £1.95 (with a free Cookie Monster Munch cartridge)  
**Supplier:** Atari World, 11 Parnall Street, Manchester M14 5JL  
**Tel:** 061-434 4341



The Kid's Controller is a wireless keypad designed to be plugged into the joystick port on a 2600. Several cartridges have been released to work in conjunction with it and each come with a colourful picture card which fits neatly on the controller.

It has 12 large buttons which even the smallest of children's fingers can push with ease. But remember, only cartridges marked with a picture of the controller will work with it.

I chose Cookie Monster Munch because it is one of the most amusing children's games available. There are 10 levels of play designed to accommodate children of all ages.

In the first six games the child takes the role of Cookie Monster. Using the four arrows and space symbol — which are printed on the keypad card — you must traverse a garden maze looking for cookies to eat. Eventually the mazes get harder and you have a time limit in which to complete them.

After level six the child is the Cookie Kid, collecting cookies for a surprise party for the Cookie Monster. Unfortunately, every time he sees you, a dog up a cookie he will jump the garden fence and chase you. What you have to do is get to the cookies (or place your cookie) in 10.

This sort of game can be helpful on a number of ways for children. Firstly, they will learn eye-hand coordination, which is important in reading

and writing. Using the arrows on the controller also helps the child to learn the concept of up, down, left and right. The parents manual explains all this and prompts you, at times to ask your child questions about the game.

The graphics are very good and the Controller and game together could be an invaluable and an educating device.

## Smurfing can be fun

**Product:** Smurf  
**Price:** £7.95  
**Supplier:** Atari World, 11 Parnall Street, Manchester M14 5JL  
**Tel:** 061-434 4341

The treacherous, Gargamel has captured the young Smurfs and is keeping her prisoner on a high high above his laboratory floor. To reach his castle laboratory Smurf must run and jump through fields, woods and caves. After this he must climb tall mountains and duck dangers on the forest paths (including hawks, snakes, bats and spiders).

Once he reaches the laboratory Smurf must jump on the benches and tables until he is high enough to reach the shelf and free Smurfette.

You play Smurf and start the game outside your house. A number of obstacles are placed in your way and the game constantly gets harder.

Again after you leave the forest area you will reach the mountains and this is where you really have to be quick if you want to survive. Each time you Smurf is affected by an animal or falls over he grows more tired. Eventually he gets too tired to continue and another Smurf must take his place.

The game is great fun and has a very addictive quality. Pretty graphics and sound effects make this an ideal choice for children.



## Tonight's the night

**Product:** Title Match Pro Wrestling  
**Price:** £9.95  
**Supplier:** Polar Electronics, Portsmouth  
**Address:** European Industrial Estate, Brooklands Way, Gosport H11 1AG  
**Tel:** 01 903 5545

"...the scenario of the crowd shake the arena as the two best contenders circle one another. *Mad Dog* makes the first move attacking his foe with *Stiff Head's* chest who gasps for air, his recoiled with a skin-cracking belt.

*Mad Dog* groins and grunting from behind drops *Stiff Head* onto the ring whipping him around in air circles again, letting go his legs trip the ropes and *Stiff Head* falls to earth. *Mad Dog's* opponent however shows his heart — a perfectly executed submission.

This is a computer for a superb wrestling game — *Title Match Pro Wrestling* — in which you have the choice of four warriors to fight with: *Mad Dog*, *Stiff Head*, *Mr. Mean* and *Big Chief*. All are mindless and gives itself a chance will crush you to a pulp.

You can use a number of different moves to defeat each opponent — *Back Hug*, *Body Slam*, *Power Lift* and *Back Drop* being just a few. To bring any of them into effect you use a combination of joystick movements and fire buttons.

*Stiff Head* has a specific strength, displayed at the top of the screen in bar form and what you have to do is reduce your strength while displaying your opponent's. Then you have to hit him with a finishing blow.

It is a little tricky to get used to the sensitive button combinations, but when you do the game becomes really enjoyable. Not one for the younger children, but a real fun if you are into sport simulations.

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Notes: 1. The authors are grateful to the referees for their helpful comments and suggestions.

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I am writing to you to express about the games reviews in your magazine. They simply aren't a sample of them and they are too short. A vast majority of Atari games use their computer solely for games, so why have some of your recent issues had so few or two or three reviews?

There are many more games available than you realize. I have never seen reviews of *Archimedean Rave*, *Enchanter*, *Starblaster*, *Spellbound Demons*, *Chimera*, or *Servant Rite*. You should review at least ten games a month and give them a full page with loads of screen shots.

A game like *Flyer* deserves at least six pages on it, not just the one you gave it in the August issue you only reviewed four games and the best of them. *Turmoil*, didn't even get a screen shot — pathetic!

However, I am glad to see that Atari User is getting more game based with regular facts, tips and tricks. I think you should also include a sports chart, best music chart and have more

HOW MANY REVIEWS ARE SUFFICIENT?

More items than each pro reviewer. You must get more involved with the software houses and more knowledgeable Atari games. It will pay off. —Robert Brown, Irvine, Connecticut

■ Well Robert, that was a lot you got off your chest wasn't it? Nearly all the games you have mentioned have been reviewed in Atari User. And those that haven't are too old for us to take a look at.

If we dedicated more pages a month to games reviews we would have run out of pages for utility and game programs. And according to our reader survey most of you use your computer for programing and other serious tasks.

We're not been keeping up to date with reviews and we can safely say that our review department gets the games to us well on time. It is the new games come out

every month we would look at them all.

Now on to the other points you made. If we included a best in every chart and a best music chart we would end up spending all our time compiling them and none on writing Atari User.

And that would upset an awful lot of readers.

As to our involvement in Atari games we do our best but in the end it is up to the software houses to make their worth up whether or not a program is going to be reviewed.

New section approved

THANK you for the new 2000 section of Atari User magazine. I have for a few years now owned a 2000 VCS system which I can't stop my children busy on

while I program away on my 8 bit Atari system.

The interest to read about a game before I go out and buy it for them is wonderful. Thank you again for the new section and keep up the good work. — Les Mensch, Toccoville, Cleveland

Saga of that Dodgy Dos

THESE are some things I've been bopping about the long running saga of the new Atari Dos 3.5. Released in the August issue of Atari User.

Really, it is incredible that it should take longer to write the Dos than it took to develop the hardware.

Seriously, it appears from the article that you need to adjust several timing sensors to perform simple operations. Considering the only other Dos 3.5 exists, compared to Dos-XX, is the ability to access 128K of data (how long will it be before a Dos 3.5 appears to replace Dos-XX)? — P. G. Frost, Wokingham, Bucks

■ The appearance of a Dos 3.5 would be welcomed by most owners of the 800 and disc drive. Dos-XX and the freeware Dos, whereas 2.5 is one of the oldest to go.

However as the review stated, you would always use SportsDisk with the drive and then you get the best of both worlds. High speed, extra capacity and user friendliness — what more would you ask for?

Commander boot error

I HAVE owned my Atari 5200 computer and have stuck since Christmas of last year and I have been very pleased with its performance. However your magazine has been bought a new game from Star

BIGGEST IN THE WORLD?

I SEE from general letters and users reports in Atari User that Atari UK is planning to support the 8 bit computer properly. I feel that Atari has left it a little late to help the thousands of new 800 owners.

It is and always will be the best 8 bit computer to be sold in the UK. This may not be a total statement, but you only have to take a look at the last 10 years to see what I mean.

Since the first day the old 400 computer appeared in the High Street stores it has never had any advertising behind it.

Atari has never advertised the 8 bit version in any trade magazines or on TV or even in Atari User. Put the case

against how the 800.

Now why is that? Could it be that the word "computer" alone have not made them do it? I know that Atari has never lifted a finger to support the 8 bit in the UK.

So when we are in the late 1980s and all of a sudden Atari is doing what a great little computer it is, it's again some game console for it.

If that new advertising campaign of Atari's does reveal new life and popularity into the 8 bit for me well be very happy about it. I have owned my old 800 for nine years now and I plan to use it for another year.

To finish off with I was

wondering if you can help me with a little bit I have with a friend.

After looking through all the Atari specific publications I have come to the conclusion that you are the biggest 8 bit Atari magazine in the world. My friend says that you aren't. Are you or aren't you? — Kimberley Jenkins, Sutton Coldfield, Birmingham

■ Well Kimberley, you did have a lot to say didn't you. As to whether we are the biggest 8 bit specific magazine in the world, we don't really know. But after looking at all the other U.K. and American magazines for the Atari market we do appear to be the biggest.

Turn to Page 102

Gallup Software Chart

THIS MONTH	LAST MONTH	TITLE (Software House)	COMMENTS	PRICE
1		GREAT AMERICAN ROAD RACE <i>Firebird</i>	You drive a roadster in the race crossing the USA. Elements of the cockpit, your speed and the obstacles.	1.99
2	•	GAUNTLET <i>Koe</i>	Have re-release of a budget price, it is well worth the money. A classic with a Dragon Dungeons type interface.	2.99
3		AIR WOLF <i>Exxon</i>	Transferred from the TV programme. You are a man with a winged flying a jet fighter.	1.99
4		ZYBER <i>Paragon</i>	An excellent shoot 'em up, worth more than its budget price. Good graphics.	2.99
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15		MATIA BLATTA <i>Firebird</i>	As released by Firebird you received our reviewers' approval of this one in the cover of Atari User.	1.99
16		LEAPSTER <i>Alternative</i>	Great if you enjoy jumping over cats and turtles while collecting stars from again a mouse.	1.99
17	•	TRANSMUTER <i>Code Masters</i>	Scoring shoot 'em up which is one of the very few games for Atari by a girl. Modest Cupeland.	1.99
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