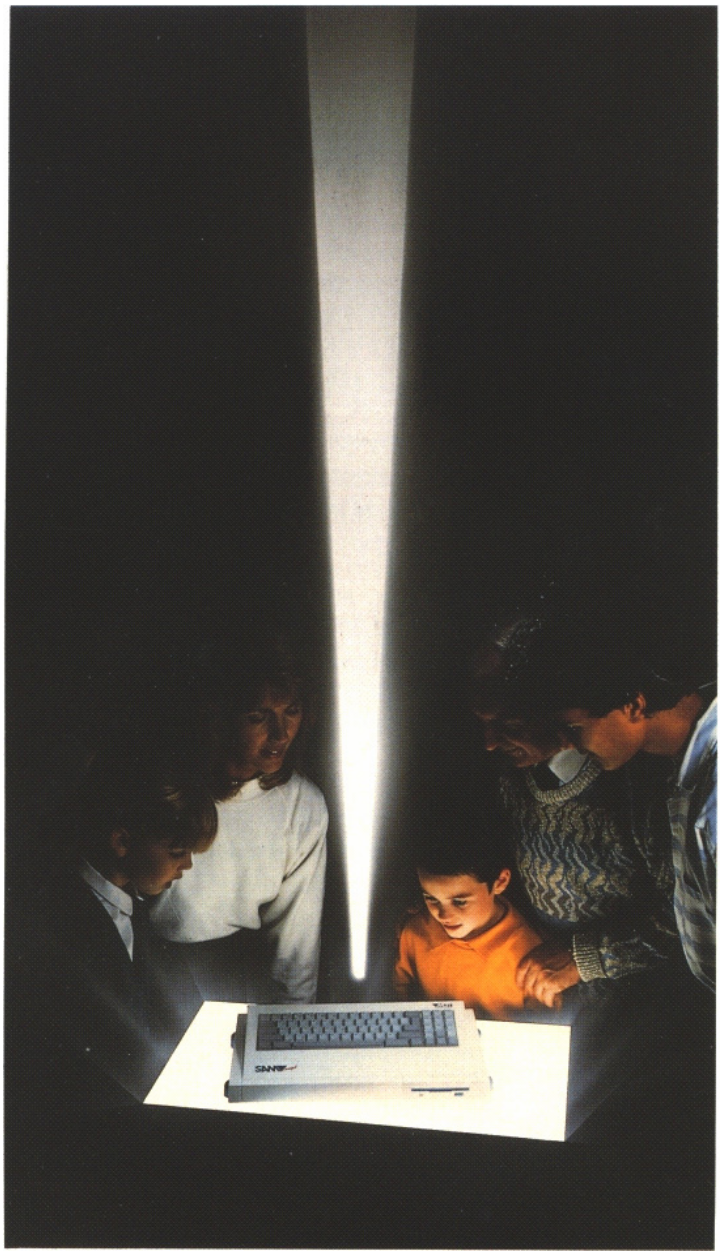
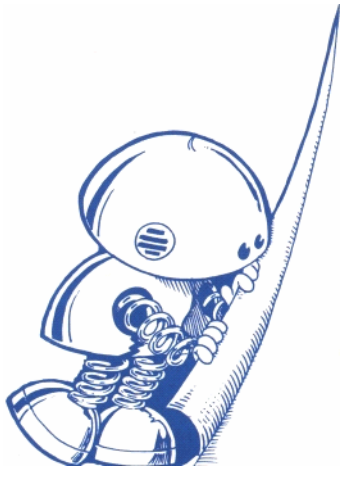
MILES GORDON TECHNOLOGY plc

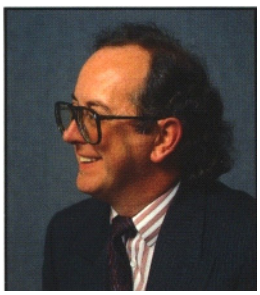


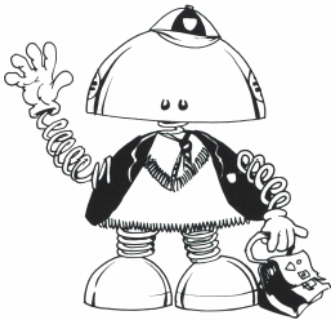
SAM coupé



Bruce Gordon is the clever one. He's the one who understands the technology better than anyone, who makes the chips and the circuitry come to life in a way they've never done before. Alan Miles is the people person. He knows that the technology needs to serve people of all abilities and backgrounds. He keeps it simple.

Together they've been building for over three years. Building a computer which is ingeniously simple yet crosses new frontiers in performance and price. Building a company which sets new standards of service for its customers. Now they're ready to launch the product that MGT is all about - the SAM Coupé.



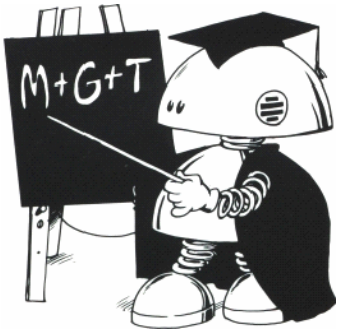


Your first computer

Taking the plunge can be a difficult decision. Now the Coupé makes it easy! We've built flexibility into the design, to keep the price low for the beginner, but to allow you to upgrade easily when you're ready.

Even the basic model offers a greater range of options than ever before, with 256K memory and built-in joystick, mouse, MIDI and network ports. But whenever you want to, you can simply purchase extra memory or disk drives to fill the slots we've left available.

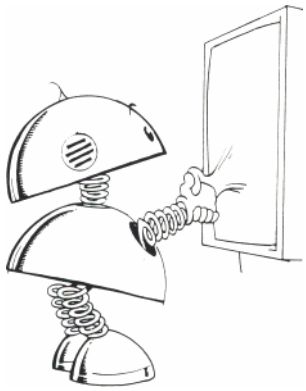
And the manual, while comprehensive, is written to make things easy for you - even if you or your family have never used a computer before.



Learning with the Coupé

The sturdy design, the network, the sound and colour capabilities, the MIDI, mouse and light-pen ports - all these features make the Coupé excel in the classroom. Add to this the vast range of existing educational software and a price with tight budgets in mind, and you'll see that the Coupé is a superb choice for the schools.

Outside the classroom too, the Coupé is the ideal computer for learning. Our lovable cartoon character, SAM, introduces beginners - young and old - to the principles of computing. And for the concerned parent, MGT has commissioned books and software to help you to help your children.



Spectrum Owners

You've been building up your Spectrum software collection for years. You want a computer with better sound, better graphics, more power - but you don't want to lose your software.

The Coupé is the computer for you. Four screen modes with a choice from 128 colours, a six-channel stereo sound chip, 256K RAM (expandable to 512K) - yet by actually slowing the Coupé down, we allow most of your 48K Spectrum software to run in the Coupé's level 1 mode.

SAM coupé

Music

There won't be a better buy for all you aspiring electronic musicians. The Coupé features a full implementation of MIDI - MIDI In, Out and Through - with 16 channel capability, and MGT is promoting a full range of MIDI support software. Better still, the Coupé features an 8 octave, 6 channel stereo sound chip. For sensational sound effects, just plug in your headphones.

Play it again SAM!

Graphics

See the full range of 128 colours on an ordinary TV set. Or better still, use a video monitor for really high definition. You can even use a modern TV with SCART to get the quality of a monitor on an ordinary TV set.

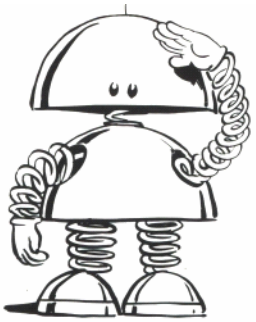
The Coupé has four graphics modes. Even at the lowest level - Spectrum emulation - you can change the colours in the the software to take full advantage of the palette. In modes 3 and 4, you can display up to 16 colours per line, a different colour for every pixel in a 256 x 192 pixel display; or have an 80-column 512 x 192 display for word processing and spreadsheets.

And free with the Coupé comes FLASH!, a software package by ace Swedish programmer, Bo Jangeborg, designed to give you total control over these powerful graphics.

Growth

You never stand still with a computer. You're always learning, always growing, always wanting to do more. With the Coupé, your computer can grow with you.

Memory can be expanded from 256K to 512K. One or two 1 Mb disk drives can be added. There are output ports for almost everything we can think of, and an expansion connector for things that other people develop later. And all of it simply slots in - no screws, no soldering, no hardware expertise.



SAM. No, the computer's not called SAM, it's called the Coupé. This is SAM - he's the character who will guide you through the manual.

A 72 key full-sized, full travel **Keyboard,** designed with a professional feel. The keys are "soft", allowing you to re-program and re-position them if you wish. On the right, there are 10 function keys, which double as a numeric keypad.

Do we need to say more about the **Style** of the Coupé? Sturdy, but original - designed to be a pleasure to use and a pleasure to own.

The **Break Button -** use it to ESCape, BREAK, or CRASH from a program.

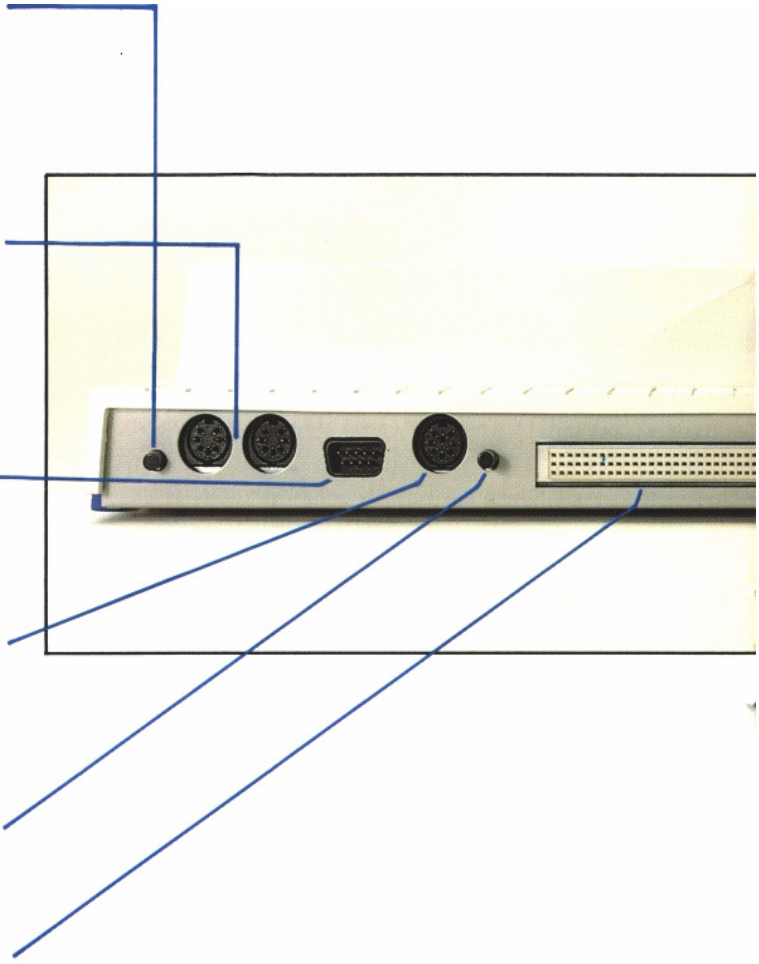
The **MIDI** sockets - MIDI In, MIDI Out and (through software) MIDI Through. Everything that the musician needs! The same sockets are used for **Network** connectors: software control allows you to use the Coupé as a station in a 16-machine network. Share one disk drive or printer between all the Coupés in your network.

The **Joystick Port** is compatible with an industry-standard joystick. An MGT adapter allows 2 joysticks to be connected.

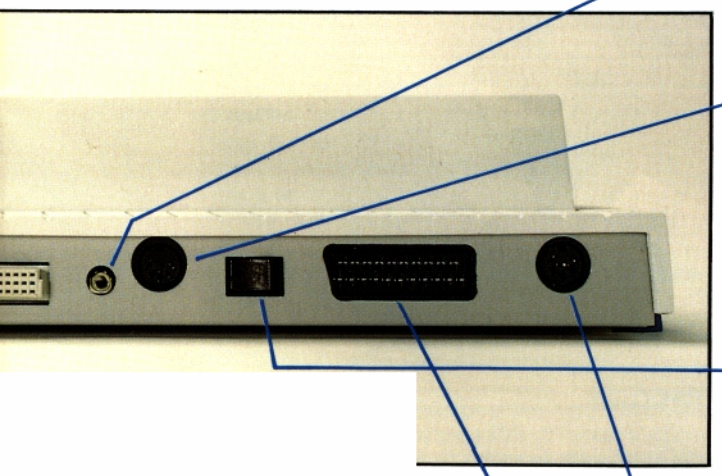
The **Mouse Port** is for a special MGT three-button mouse. When a mouse is fitted, the cursor controls are overwritten - so the mouse will work with almost all software, as well as software specially written for it.

The **Reset Button -** press it to completely reset the machine.

A 64-pin **Expansion Connector -** Euro-type for extra reliability - for any interface that we haven't included. This is where printer and other communications devices are attached.



The basic model of the Coupé comes ready to work with software loaded from a standard cassette recorder. But you can also add one or two 1 MB 3.5" **Disk Drives.** These are ultra-slimline drives from Citizen in a special case which allows you simply to slot them in when you're ready.



The **Cassette Interface -** a lead is supplied to connect a standard domestic cassette recorder for loading and saving tape software.

The **Light-Pen Port** allows a Coupé-compatible Light-Pen to be attached - excellent for use with very young learners. But it's also a **Light-Gun Port -** and the **Stereo Headphone Socket,** if you want to take full advantage of the sound chip.

The **On/Off Switch:** no need to unplug all the time. However, when you've finished using the computer, switch off the power at the mains as well: the power to the external power supply is still on.

The **SCART** socket allows the Coupé to be connected to SCART TVs or video monitors for high graphics resolution. Coupé Sound is output through the TV (or through your hi-fi system and headphones). Beware: RGB monitors can be Linear or TTL. While the Coupé will work with both, TTL monitors are limited to only 16 colours.

You can also connect a standard UHF television to the Coupé; the connection is made to the Coupé's power supply unit.

The Coupé comes with an **External Power Supply** connected here.

The Coupé's slot in Disk Drive,

What else do you need to know?

Not a lot! If this is your first computer, you may be confused by all the technical terms. Don't worry. SAM takes you on a simple, entertaining tour of the machine in the manual, which includes a glossary explaining all those unfamiliar words. But whether you're a beginner or a boffin, you can rely upon MGT's expert guidance: our Customer Care department (on 0792-791100) is always there to help when you need us.

The basic model includes everything you need to get started. You get the computer itself, with the leads you need to connect up with your TV set and cassette recorder. Then there's the manual, and an introductory program (on cassette) including the superb graphics program FLASH!

Frequent users will soon want the power and speed of a disk drive - or perhaps two. When you order a Coupé disk drive, you also get MGT's own disk control software, which allows you to share your disk drive and printer between machines in a network.

You may wish to extend the memory from 256K to 512K. That's easy - You simply order the two extra chips to be plugged straight into the machine. A joystick? Well, simply ask your dealer for a standard Atari-type joystick. The mouse though will need to be a special MGT model available from early 1990.

Other releases from MGT will be a special Coupé monitor, printer and a network cable. But if you can't bear to wait, a wide range of standard monitors and printers will already work with the Coupé. If you're using a printer, you'll need MGT's special printer interface. During 1990 we expect to see a host of other devices developed for the Coupé - both by MGT and other manufacturers. To keep up with what's available, just talk to MGT's Customer Care department.

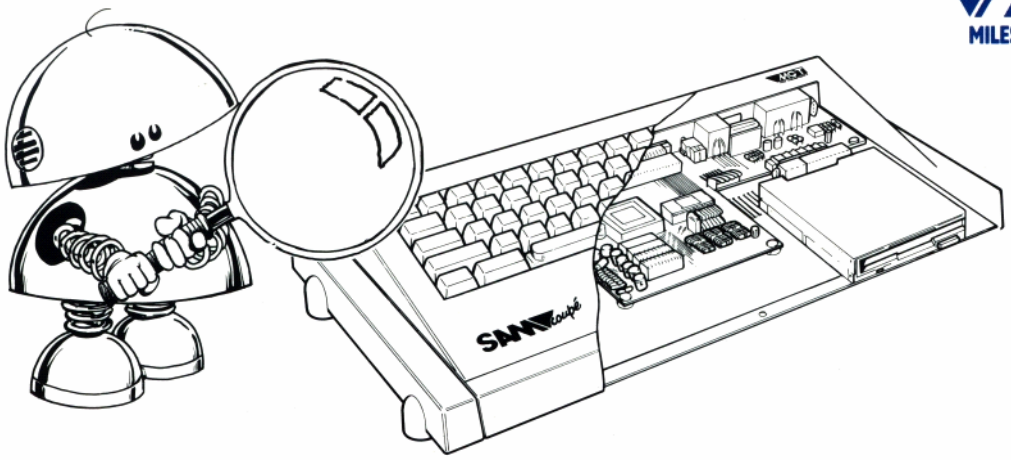
So you're already a Spectrum user...

Well, most commercial 48K (but not 128K) software is going to work in graphics mode 1. But which titles? MGT continually tests as much software as possible and will list those titles which are known to be fully compatible. The Coupé also comes packaged with software which will interpret Spectrum Basic and convert it to SAM Basic to solve most incompatibilities. Unfortunately, existing Spectrum add-ons are not likely to be compatible - except joysticks, and cassette recorders. If you have a parallel or serial Epson-compatible printer, it can be connected - using the Coupé's printer interface, which is purchased separately.

If you're an existing MGT customer with a DISCiPLE or PLUS D interface with disk drive, we've thought about you. You'll be able to read PLUS D/ DISCiPLE disks on the Coupé. We're also supplying an inexpensive interface to allow you MGT customers to attach your existing MGT drive to the Coupé externally - it's our way of saying thank you for your support in the past!

SAM coupé

MILES GORDON TECHNOLOGY plc



The paradox of the Coupé is how so much power and so many features have been incorporated into such a simple, inexpensive design. This feat is achieved by the ASIC chip designed by Bruce Gordon which does the job of 134 ordinary chips. It means that there are only 8 chips on the printed circuit board - there's very little to go wrong, and the production costs are kept down.

MGT's SAM Coupé - General Specifications

Engine Z80B microprocessor running at 6Mhz

Control Customised VLSI 10,000-gate ASIC chip

ROM 32K containing SAM BASIC, disk bootstrap, BIOS

RAM 256K upgradeable to 512K (256K x 4 100ns DRAM)

Sound Philips SAA 1099 Synthesiser: 6 channels, 8 octaves, stereo with amplitude and envelope control, plus choice of wave form.

Graphics Motorola MC 1377P Video Chip. ASIC serves as graphics processor, offering four modes:

Mode 1: 32 x 24 character cells per screen, each cell capable of 2 colours; 16 colours selectable from 128; Spectrum-attribute compatible.
Mode2: As mode 1, but with 32 x 192 cells, each cell capable of 2 colours: 16 colours selectable from 128.
Mode 3: 80 column text display - 512 x 192 pixel screen; each pixel selectable for colour; 4 colours per line selectable from 128.
Mode 4: 256 x 192 pixel graphics screen; each pixel selectable for colour; 16 colours selectable per line from 128.

In all modes, colours may be redefined at line interrupt, allowing all 128 colours to be displayed on-screen.

Interfaces UHF (TV channel 36), through power supply unit. Colour composite video, digital and linear RGB, all through SCART.
Atari-standard joystick (dual capability with splitter cable).
Mouse - Coupé standard.
Light-pen, Light-gun - Coupé standard.
Domestic cassette recorder.
MIDI In, MIDI Out (MIDI Through, via software switch).
Network - screened microphone cable with 7 pin DIN connectors.
Audio output socket.
RS232 and parallel printer via external MGT interface connected at expansion port.
64-pin expansion port for further peripherals.

Disk Drives 1 or 2 removable and internally mounted 3.5" ultra-slim Citizen drives, 1 Mb unformatted, 780K formatted.

Keyboard 72 full travel keys, membrane type, including 10 function keys (software defined).

SAM BASIC

Programs may be up to 217K long on a standard 256K Coupé. Line numbers up to 61439 are allowed, with each line containing up to 127 statements. Strings and arrays can have names up to 10 characters long. The names of user-defined functions and numeric variables can have up to 32 characters. Strings can be up to 64K long; arrays can fill all available memory. SAM Basic is fully structured and includes procedures with local variables and parameter-passing by value and reference. Long and short IF and ELSE are implemented, as are DO, LOOP, REPEAT, UNTIL, a CASE equivalent, ON, ON ERROR and GO TO label.

Graphics are well catered for, with very fast DRAW, CIRCLE, PLOT and pattern FILL. RECORD and BLITZ allow complex graphics sequences to be stored and replayed at high speed. Any part of the screen can be moved in any direction with ROLL and SCROLL, and sections can be GRABbed and PUT back elsewhere. PALETTE allows instant changes to the screen colours; all 128 colours can be displayed at once. The displayed screen can be instantly switched for another. The character set includes block graphics and a wide range of foreign characters. Character size can be altered to give 32, 64, or 85 columns. Double-height characters can also be used. Text and graphics screen copies can be made to a suitable printer in a variety of sizes.

Sound commands include BEEP, SOUND, and a range of pre-programmed sound effects.

There are 56 built-in functions, which provide a full range of mathematical and string-handling functions as well as mouse and light-pen handling, string searching, hex and binary conversion, and other features.

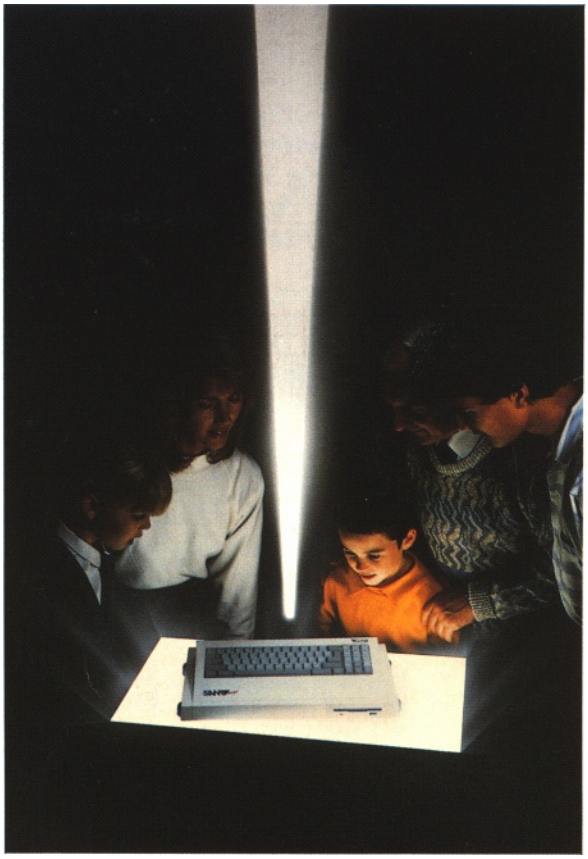
The tape system can handle program, data, binary and screen files at a wide range of speeds.

The keyboard can be completely re-programmed; pre-defined strings can be generated by any key.

Programs can be automatically indented to reflect structure and renumbered.

IF YOU REQUIRE IN-DEPTH TECHNICAL INFORMATION, A COUPE TECHNICAL MANUAL IS AVAILABLE FROM MGT NOW AT £8.95 (including postage)

(MGT reserves the right to amend the technical specifications of this product at any time and without prior notice).



SAM people have all the luck!

DEALER STAMP

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