Go Atari!

Editorial

Welcome to the second issue of the Atari Resource Guide for teachers.

Again compiled by Atari Australia. I am sure you will find all of the information relevant for New Zealand teaching conditions.

In keeping with the theme of tomorrow's schools, it is important that purchases of computer hardware are made with an eye to the future.

The current generation of Atari computers are as expression of this philosophy. Under the lid of the new Atari STE are dramatic new refinements. You can now expand the memory to a whopping four megabytes, play music with compact disc audio performance, and view colour pictures in stunning clarity.

Even more impressive are the capabilities of the new Atari TT. Read what we have to say about the TT in the next column and learn why many teachers have applauded its design and potential capabilities.

Capitalising on these developments are many new software applications. Throughout this publication we have spotlighted applications that span the school curriculum.

Discover how your Atari can be used to produce your next school magazine; add titling and animation to the school video; even become a multi-limbed synthesiser. All on a budget that won't break the school bank.

If all this technology seems daunting, take comfort in the specialist guidance of our Authorised Atari Specialists.

They can help you discover for yourself the many benefits of placing Atari computers in your school.

Alex Davidson
ATARI COMPUTERS

New Atari TT – the Next Generation

SYDNEY, 10th July: Atari used the World Computer Education Conference at Darling Harbour to launch the TT, the first in a series of new computing platforms based on the powerful Motorola 68030 processor.

Overview

Designed as an enhanced version of the existing ST and MEGA family, the TT series maintains compatibility with the ST/MEGA architecture, but uses the Motorola 68030 microprocessor and provides enhanced graphics and sound. The TT series is also designed to run UNIX together with X-Windows, the popular graphics interface.

The TT features an industry standard bus to allow it to be easily upgraded. Into this slot can be added a broad range of graphics, networking and control boards.

The TT also accepts plug-in memory modules. Using one megabit chips, the TT can be expanded to eight megabytes of memory or, if the need requires, expanded up to 26 megabytes using four megabit chips.

The Atari TT is designed to be used as a powerful standalone computer or as a workstation within a workgroup environment. Though equally well matched, the TT includes its own Localtalk network connector, Alternatively, Ethernet links are available through a VME card or a SC-SI-based Ethernet controller.

Educational Perspective

What is less understood in educational circles are the benefits that a computer of this stature presents.

For a first-time user the immediate impact is speed. The Atari TT is between four and seventeen times faster than the ST. Calculation intensive activities such as technical drawing, publishing, graphics and printing are now able to be performed effortlessly.

The ability to work with large amounts of memory mean that multiple applications can now be run in memory simultaneously, enabling sounds can be sampled in real-time for modification and playback, animations can be pre-

STUNNING PERFORMANCE

sented with more colour, sound and forms.

Already software developers are poised to launch a new generation of software applications that will allow senior students and teachers to explore many new boundaries in their computer studies courses.

Foremost is the advent of superior-real colour graphics that will offer a new perspective in art, design and textile courses.

With its inbuilt networking capabilities the Atari TT can be used as a central fileserver, equally at ease in an administrative or classroom setting.

An option that will shortly become available for the TT is an implementation of UNIX System V. In many tertiary environments, familiarity with this operating system is a necessity.

As a UNIX station incorporating the popular X-Windows graphics interface, the TT is able to perform the same tasks as many of the more expensive workstations, with costs that far exceed the TT.

Specifications

Compatible with thousands of ST software titles that operate on the ST/STe and MEGA computers.

Graphics

320 x 480 with 256 colours from a palette of 4096; 640 x 480 with 16 colours from a palette of 4096; 1280 x 960 high resolution (monochrome).

Hardware features

MC68030 processor running at 32Mhz; micro 8-bit PCM sound; MC68882 co-processor; two megabytes of RAM, expandable to 26 megabytes; SCSI and DMA ports as standard; internal 50 megabyte hard disk; Localtalk networking connector; four serial ports; parallel printer port; MIDI IN/OUT/THRU; detachable keyboard; single VME expansion bus; real time clock with battery.

STACY – Atari's new portable ST

Shortly to make it's debut in New Zealand will be the Stacy – a complete ST system in an integrated and portable package.

The briefcase-size machine opens up to reveal a full ST keyboard and a backlit monochrome liquid crystal display which shares the ST's monochrome resolution of 640 x 400 pixels.

Stacy shares a similar geography to the ST, with all the same ports in the same positions. What it adds is a trackerball (that's an upside down mouse) to the right of the keyboard. If this is not to your liking, the trackerball can easily be disabled and your trusty mouse used as the preferred pointing device.

On the critical screen test, Stacy passes with flying colours. In place of the traditional Atari paper white display, Stacy uses blue text on a light grey background. Because the screen runs through a full 180 degrees it is easy to position the display to achieve maximum luminescence.

If you plan to do a lot of writing in the direct sunlight, the backlight can be turned off with the flick of a switch.

The big issue is of course compatibility. We fired all our favourite applications at Stacy to see if she would stumble. Except for the occasional game which wasn't happy with TOS 1.4 (the current operating system on the STe and Stacy) Stacy didn't miss a beat.

As you have probably guessed, Stacy was designed principally for the music market. With its resident MIDI ports and unusual flexibility, your average musician can now present that "big" sound with just a few clicks of the mouse. Whether performing on stage or moving the "mix" on to a studio, it now becomes an effortless process, finally dispensing with the usual rats nest of cabling associated with a desktop computer.

Stacy opens up a host of new applications that demand portable computing power at ST prices: portable DTP and design, portable CAD, portable MIDI and portable sample processing. Stacy also offers the unique feature of being able to plug in an Atari monochrome monitor and run both screens simultaneously. Alternatively, plug in the Atari colour monitor and use any of the thousands of applications that require a colour display.

Stacy is configured with two megabytes of memory, a 40 megabyte hard disk and a single 720k floppy drive. Plug-in hard disks systems allow Stacy to be easily expanded to a full four megabytes.

INTRODUCING the powerful new Atari STE series. Based on the widely successful STFM, the Atari STE itself goes beyond the limits of its predecessor.

New products unveiled

ATARI STE - MORE FEATURES AT THE SAME EDUCATION PRICE

In case you are not aware, the 'E' stands for 'Enhanced'. But once you have discovered its amazing array of features, you may consider 'Enhanced' to be an understatement.

Perhaps the most outstanding feature of the Atari STE is its graphics. Its palette contains over 4000 colours (in fact, 4096 to be exact).

To ensure precise and realistic images, the STE features hardware scrolling; enabling smooth scrolling in any direction and split screen effects. And, with the SM124 monitor, you'll get razor sharp text that's as clear as the text on this page.

To complete the picture, it is able to 'phase-lock' its video output to an external video source, permitting direct linking to a genlocking device; such as the locally manufactured AGS-20 unit.

The STE won't just have your eyes swivelling in their sockets. Your eardrums will also take a pounding from the 8-bit PCM stereo sound.

The new PCM (Pulse Coded Modulation) sound system's two chips allow the STE to replay high quality sampled sounds, in stereo, without burdening the CPU.

Or, for even more of an ear-

bashing, just add a couple of RCA output jacks and power the sounds through your own stereo.

Of course, we mustn't forget memory. Standard with the STE is 512k of memory and if that is not enough, the STE provides four SIMM sockets.

Simply plug in some SIMM (Single In-Line Memory Module) boards and boost the RAM up to four megabytes of memory.

To help you handle all this technology, we've added even more: a Blitter chip; capable of moving data at high speed independently of the main processor, and Rainbow TOS; our enhanced operating system.

We have improved the file selector, added additional functions to the desktop, made our disk drive MS-DOS format compatible and added such features as auto-loading of programs; a necessity in the infants school.

As you would expect, the Atari STE remains downwardly compatible with the thousands of software programs already available for the STFM.

It is also compatible with our existing range of peripherals; including hard disks, laser printers, colour monitors and our MegaFile 44, Atari's unique 44-megabyte removable hard disk.

In line with the trend towards schools purchasing 286 computers as an entry level computer platform, Atari have released two new PCs that share a common housing yet offer different performance characteristics:

ABC 286-30: 80286/8 processor, 1MB DRAM, 3.44Mb 3.5" floppy disk drive, 30 meg. HD, RGA, 1 AT style slot, 1 parallel, 2 RS-232 ports, extended AT keyboard.

ABC 286/60: 80286/16 processor, 1MB DRAM, 1.44Mb 3.5" floppy disk drive, 60 meg. HD, Extended VGA graphics, 1 XT & AT slots, 1 parallel, 2 RS-232 ports, extended AT keyboard.

New Range of '286 PCs

Add-ons for the Portfolio

Since we released the amazing Portfolio, there has been a flood of applications building upon its unique portability and adaptability.

A company in WA has developed a satellite navigation system, a company in QLD is using the Portfolio to monitor water-housing operations, a school in NSW has acquired a class-set for use on field trips.

To complement these activities, we are now shipping a number of peripherals that enable easy expansion or communication with a conventional desktop computer:

Smart Parallel interface: connect your Portfolio to a standard centronics device or communicate with an IBM-PC using our standard file transfer software.

Serial Interface: communicate with any device across a standard RS-232 link. Use SLAVE and a null-modem cable to talk to any computer in your school.

Memory Expander: A 200k RAM module that snaps together to provide a 512k expansion to your Portfolio's memory.

PC Card Drive: A drive to mount in your existing PC that allows you to read/write to a Portfolio smart card.

FM Melody Maker

Designed as an entry level music education system, Melody Maker is remarkable for the value it offers at such a low price.

The package comes complete with a plug-in cartridge and a software disk.

Simply plug in the hardware cartridge and connect the stereo audio outputs to a hi-fi, head-phones or suitably equipped monitor. Boot the Melody Maker software on the Atari ST and it's ready to compose music.

Seventy-eight preset sounds are available, not unlike sounds found on the Yamaha DX-7 synthesiser.

The package also has an in-built drum machine; sequencer and auto accompaniment section.

The Melody Maker software works using a standard musical stave.

Composition is performed by selecting the correct note lengths or rests via the Atari mouse and then dragging the note onto the stave.

The cleverest aspect of the software is that from the melody and chords entered, the software

creates an orchestrated piece from 16 different accompaniment styles ranging from waltz to big band, from latin to pop.

A rhythm module is available where the student can compose rhythm patterns using a drum grid and arrange the patterns in songs of up to 40 bars in length.

The drum arrangement can play internal percussion sounds such as bass, snare, hi-hat, cymbal and toms.

For more advanced students the FM Melody Maker package also has Musical Instrument Digital Interface (MIDI) facilities. Switching on the MIDI output option, internal voices can be assigned to any MIDI channel complete with velocity information.

It is also possible to assign rhythm voices to appropriate MIDI note values. So, with the addition of a MIDI keyboard it is possible for a student to play along with their composition.

In all, FM Melody Maker with an Atari ST computer is the perfect beginner to intermediate music education package.

Robokit now Shipping

If you thought you left Lego behind in primary school, then think again. Atari Robokit is now shipping to schools around the country.

Robokit is a spinoff from an application developed by professional robot engineers.

Models can be built with Lego Technics or from other construction systems such as Fischertechnik or modelling materials such as plastic, metal and balsa wood.

These models can contain battery powered motors, electromagnets or solenoids, micro-

switches and other electronic sensors for sound, light, touch or heat.

The Robokit interface connects to the cartridge port of your computer and because it accepts both input and output lines, Robokit can simultaneously monitor feed-back sensors as well as drive motors.

Robokit is the perfect platform for introducing the science of Robotics to your students and its easy to understand graphic inter-face ensures students in both junior and senior school are able to use it.

Keyboards and Kids - Ideas for the Infant and Primary School

You may have had your Atari computer active in the classroom and thought – "Where do I go from here?" Wading through the maze of education, graphics and word processing software can seem a daunting task, especially when your actual time on the computer may be limited.

Here we discuss some of the major programs that might help you over this hurdle. Use this page as a guide to discover just how powerful your Atari computer can be as a teaching resource for your students and an invaluable tool for your own work.

Painting and Publishing

If you have been using computers for any length of time you will have recognized that even the youngest students are able to use a computer constructively and creatively. To stimulate this interest, introduce them to Kidpix, an excellent series of applications that includes such features as large targets for the mouse, colour-coding, limited choices and picture icons.

A popular starting point is Super KidGrid. Designed to develop and support creative thinking, this program offers a unique experience for students aged 3–10 with a range of options that include drawing shapes, matching and combining colours and creating patterns.

With KidPainter, your students can go one step further. Designed to develop thinking skills used in unrelated endeavours, this program gives experiences in patterning and matching for younger pupils, with fun entertainment and challenge to develop memory-level students and has the flexibility to grow and change along with student needs.

Kidpublisher Professional is one of our favourite programs. It is an excellent and improved version of the previously released Kidpublisher for children ages 3–11. Create a poster, design a booklet, write a letter to a relative, or publish joke books, colouring books . . . any document with both graphics and text.
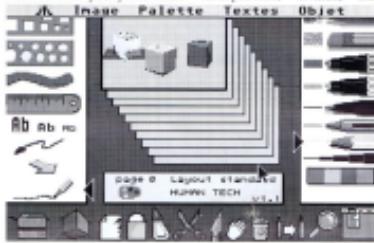
Children can draw their own picture, type their own words and express their creativity!

Word Processing

Working with young students in a primary classroom requires a comprehensive, and user-friendly word processor. One of the latest to arrive is Script, an easy-to-use program that combines a simple graphic screen, a wide range of fonts which can be viewed on-screen, and a spelling checker with 15K spelling. You can even import graphics to illustrate your writing.

Excite your students into using an Atari drawing program to illustrate their poetry and make

their ideas come alive. Produce posters or invitations to forthcoming school events.

Don't be misled by its ease of use, however. Script is an extremely powerful program, which offers an intuitive approach that will encourage even the youngest students to try their hand at using the computer for text composition.

Animation

Remember those colouring books that asked you to flip through the pages to see the characters move? With a program like Cyberpaint, you can produce the same kind of animations using a wide range of colours and your Atari computer.

Draw a simple face and easy it across five frames. In each frame, change one eye so that it slowly closes. Play the whole series through, and you have a

winking face! It's as easy as that.

Create titles and watch them spin off into space, or shrink down to nothing. Import pictures from other drawing programs and make the characters move. Add text to your animations and you have a cartoon to rival Walt Disney.

Maths Skills

Math Blaster Plus: With the help of the Math Blasternaut, students can turn their Atari computer into a powerful tool for building a sound foundation in maths.

Use Math Blaster Plus to help students master the basic maths facts in addition, subtraction, multiplication, division, fractions, decimals and percentages. A brilliant game for the next level, or goes down a level if the player is having difficulty.

Some 6-8 year old children children have had very little computer experience before starting school, while others are developmentally less advanced. Although it is impossible to please all races all the time, this package of eight programs has something for everyone.

Help the caterpillar to eat the apples. The bottom scored guide the frog across the pond with the multiplication ladders, else stop the train at the correct station by matching colours.

The Fun School package for over 6s combines the challenges of a larger adventure game with the convenience of a series of short puzzles.

Music Ideas with FM Melody Maker

FM Melody Maker can help you bring the creativity of music composition to the classroom, using your Atari ST computer. Just plug in the cartridge and you're ready to go!

Students can use the mouse to enter a melody line and chordal backing.

Change the key, add a time signature and set the tempo. Students can even orchestrate their piece by choosing from 78 different instruments and 16 musical styles ranging from classical to reggae. To control knowledge is necessary to start making music right away.

It can be used with either colour or monochrome monitors.

This user-friendly music making program is highly recommended for all ages.

Reinforce Computer Skills

The Fun School 2 series offers three associated packages: the first for the under-6s, the second for 6-8s, and the third for the over-8s. All have been designed by a team of educationalists to encourage the development of maths and language skills.

Fun School introduces basic computer skills to the under-6s using programs which require the minimal keyboard input. Develop shape recognition, offer an introduction to numbers, and follow the easy steps of word building and moving around a maze. As the child becomes more competent at an exercise, the pro-

Adventure Games in the Classroom

Use these programs to develop comprehension, reading and problem-solving skills with your students and have fun!

An adventure game used in the correct context can provide an excellent platform for formulating and testing hypotheses, taking notes, drawing maps and other diagrams, and developing group co-operation within a classroom setting.

If you are working in an infants classroom, investigate programs such as Winnie the Pooh and the 100 Acre Wood or popular favourites such as Granny's Garden as a friendly bridge between the characters they know and the computer.

For year more advanced students, let them loose with STAC.

This is an adventure game creator for the ST. You can create your own images with the paper popular Atari painting programs, decide the display and paths of the characters, design your own language parsing – that's teaching the computer to understand what you type on the keyboard.

Then link all these elements together to create STACWAKER - standalone adventure games that can be freely distributed among students or between schools.

Languages analysis, illustration, problem solving, story and group co-operation are some of the important skills formed by using STAC in the class room.

MY HOUSE
This is my house. I live in the country. I live in my house with my mum and dad and my baby brother. We have a pet kangaroo. She lives in the front garden.

This could be called Fretting Duck, although it probably originates from Bacteld.

Lights, Camera, ACTION!

Desktop Video on the STE

Desktop Video (DTV) Explained

Desktop video is the production of computer images that are comparable to what you would encounter on a film or television show. Usually this implies animation and sometimes sound.

To achieve the smooth effect of mixing titles or an animation sequence to an existing tape requires the purchase of a genlock device.

A genlocker will allow your STE to receive a video signal from either a VCR or television so that the images also appear on your STE colour monitor. With a genlocker engaged, your screen can display two images: a direct video source from either a camera or VCR, together with the pictures from your computer. This may be an animation sequence, your word processor or a painting.

As both video sources are synchronised, it is possible to record the combined image on a standard VCR. In effect, and with a little imagination you are able to create real video titling and animation.

With a genlocker it is possible to produce work similar to a professional television studio.

Now you can scroll text over a background to produce your own video titling, just like the credits at the end of your favourite television show.

Real-time subtitling of videos is also possible. Any video can be titled using programs such as Imagic, Cyber Paint or Videotext.

All those programs offer a host of special effects. It is possible to take an image or text and have it defocus (blur), shatter, crystallise or move around the screen at blinding speed.

As a final touch, add music or spoken word to your video.

We suggest you use C-Lab's UNITOR which supports the SMPTE standard to provide a synchronous link with each video frame.

Getting Started

Use these powerful programs on your Atari ST to render everyone in the class to participate in the video storyboarding and editing process:

IMAGIC

Capture up to 1000 screens on a 1040STE and replay them in real-time. The powerful scroll and editing features of Imagic

turn your STE into a digital editing desk. Image operates in either colour or monochrome and supports most popular image formats.

'Create digital storyboards that playback in real-time'

CYBER FAMILY

The Cyber range of products are unique in providing an integrated family of products for the creation of television graphics.

Cyber Studio can be thought of as a 3D solid-modelling design system that is both intuitive and flexible enough to be used by students of all ages.

Objects can be created in wireframe mode, they can be rendered or modified for different light conditions. Animations can also be created on a sequential basis. These sequences retain a high degree of realism due to their accurate perspective and lighting points.

Cyber Sculpt is an extension of Cyber Studio that has been designed for cross-sectional modelling.

Projects for Cyber Sculpt might include such shapes as boat hulls, geometric models or isometric projections of buildings.

Sharing the same file format as the other Cyber products, objects can be freely moved between Cyber Studio, Cyber Sculpt and Cyber Paint allowing for progressive enhancements of the objects at each stage.

Cyber Paint can be a number of things — an animation paint box used to touch up Cyber Studio animations, a standalone animation paint program, a 2-D "cell" raster animation system and an ADO motion effects system.

The unique feature of Cyber Paint is that it is compatible with the images created in most of the standard Atari paint programs. Alternatively, images can be loaded from the other Cyber products. Any of these images can be 'cut' and pasted over any range of frames. When you play your animation, the pasted image floats smoothly from the first position to the last.

DTV Production Chart: Affordable School Video

ACQUISITION	EDITING	DUBBING	DISTRIBUTION
VCR camera	Spectrum 512	VCR recorder	VHS tape
Camcorder	Neochrome	Studio recording deck	Cyber STEd files with Animate4
SVHS camera	ZZ-Rough	SMPTE time code equipment	Imagic runtime
Vidi-ST digitiser	Hyperpaint	Notator	Spectrum 512 slideshow
AGS-20 genlocker	Imagic	Cubase	
Snapshot images from paint programs	Cyber DTV family		
	Videotext		

Glossary of Terms

Animation Edit: Editing to produce animation effects from a series of still pictures having slight differences, and then editing every few frames.

Audio Track: A part of the video tape that carries the sound.

Audio Sweetening: The addition of sound-effects, echo, music etc.

Cueing: Winding the tape to determine the edit point.

Dissolve: An effect in which the preceding picture fades out while the following picture fades in to change the event.

Dub: The addition of an audio track to a video signal.

Edit List: A list of instructions containing edit information.

Frame-grabber: A device which attaches to your computer to enable a video camera to capture images in real-time. Each frame can be saved individually or used as part of an animated sequence.

Genlocking: The combination of two video signals. In the context of this article, the combining of the computer video signal with either a camera or VCR.

Master Tape: Recorded tape for editing. In most cases, the tape has the control signal and time code recorded sequentially.

Original Tape: The tape used as material for editing.

Preview: Operation to confirm the editing condition after the edit point is set.

Punch-In/Out: Edit-in/out points of sound during the audio editing.

SMPTE: Society of Motion Picture & Television Engineers. Body responsible for establishing standards within the television recording industry, ie SMPTE time-coding.

Storyboarding: The visualisation of the film sequence. Usually created on paper by an illustrator. Imagic offers this facility in real-time.

Synch-tab: The function to perform on-the-fly editing while synchronising, with time code as a reference, the tapes recorded by two or more VCRs directly connected to the cameras.

Time-code: A specially coded track that is placed on a video tape to "lock" an audio sequence with a frame sequence.

Work Print: To aid the recording from original tape to video tape for off-line editing.

Portfolio Power

NEVER HAS SO LITTLE DONE SO MUCH!

1. Keyboarding: The Portfolio is the perfect size for little fingers to learn to type. It is often difficult to teach keyboarding to primary school students because their hands do not have the same reach as adults. On the Portfolio, the keys are small, well spaced and easily accessible.

2. Note Taking: Use your Portfolio to replace pen and paper for building young reporters on the move. Students can interview subjects and take legible notes on the spot. It's then a simple job to turn those notes into a filed document and print it out — or transfer it to an Atari MEGA ST for final layout using Calamus desktop publishing software.

3. Q & A on the Move: On a field trip to a museum, the Portfolio can work for you as a teaching tool. Download information about the exhibits into each computer. Or program them with a list of questions which must be answered during the outing. Have your students enter their answers as they gather the information, and then print out the results on their return to the classroom. And you won't have to worry about deciphering their handwriting!

4. Oral History: To acquaint your students with the rich depth of Australia's past assign them the task of interviewing an aged relative or friend of the family. Oral history is a valuable way of learning about earlier times, and the Portfolio is an unobtrusive way for your students to record that history. Later, all the notes can be downloaded into the classroom computer for formatting and a booklet produced which reflects the class learning process.
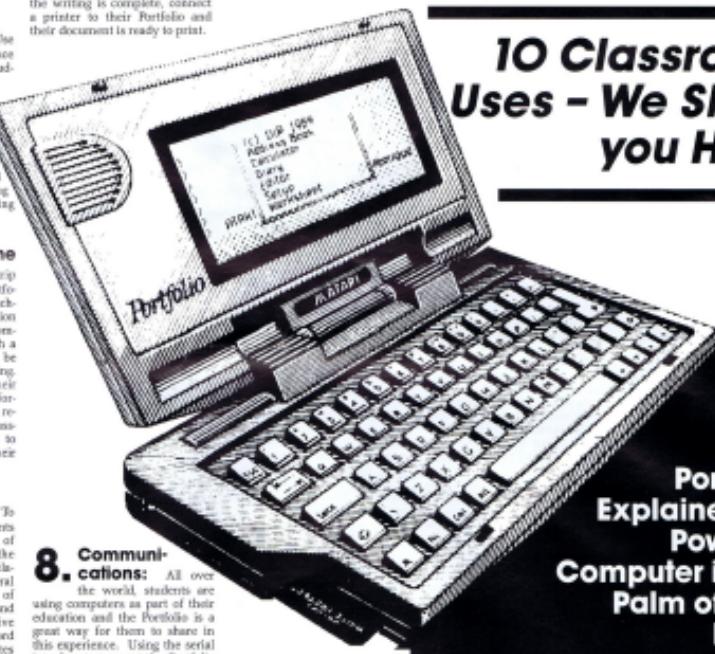
5. In the Lab: Keeping a record of the various biological or chemical species and their genus can often be a confusing task. The Address Book function of the Portfolio can also act as a database. Major family names can be entered as the key field, under which can be entered further information about the various family members or phylum. The search function makes it easy for students to quickly and easily find the correct genus.

6. Research: Sending students to the library is often a two-step task. First they hand-write notes from the relevant books; then they must write them a second time into the classroom computer to finish their report. With the Portfolio their time is halved: once the writing is complete, connect a printer to their Portfolio and their document is ready to print.

7. Programming: The Portfolio may be the best computer many students use. It can also be a useful tool with which to learn computer programming. Use the Portfolio and the BASIC language to write programs that will do all kinds of tricks.

8. Communications: All over the world, students are using computers as part of their education and the Portfolio is a great way for them to share in this experience. Using the serial interface to connect the Portfolio to a modem, participate in Pen Pals or join Qlink and communicate with schools across the World. Introduce them to electronic mail and discover a whole new learning process.

9. Calculation: For older students, a scientific (life) calculator may be their school bag. By adding the scientific calculator software to the Portfolio, students are able to perform an enormous variety of tasks with the one portable system: from taking notes in History, writing essays in English, performing complex calculations in Maths to devising their own programs and sharing information with other computers.

10. Spreadsheeting: Using the inbuilt Lotus compatible worksheet, students will keep track of their grades and assessments for various subjects during the term, and keep an accurate record of their performance. For teachers, the Portfolio can provide an excellent database record of all students, which can easily be updated to store as much information as necessary. The worksheet can also act as a computer-generated markbook which can be printed at any time for an up-to-date status report on your students.

10 Classroom Uses - We Show you How!

Portfolio Explained - A Powerful Computer in the Palm of your Hand

Optimised in this tiny package little bigger than a video cassette and weighing less than 500 gms is the power of an MS-DOS command compatible computer.

Inside the Portfolio is 256k of ROM containing a host of powerful applications. The built-in operating system is MS-DOS 2.1 command compatible and is integrated with five distinct and powerful applications.

A Worksheet shares file formats with Lotus 1-2-3 compatible software from other companies and an Editor features most of the standard functions of a word processor. An Address Book holds hundreds of entries and can also be used as a handy database. A Calendar/Diary allows you to schedule your day by adding multiple To-do lists and trig-gering alarms. Yes, it will even tell you when to "knock off" for the day. For the demanding mathematician, the Portfolio features a multi-function calculator. Containing five memories, it operates in general, fixed, scientific and engineering modes.

Printer output is supported as are percentages, factorials, one-key negation, square roots, brackets, powers and other numeric formats.

As you would expect, the Portfolio software is totally integrated with easy-to-use windows and function keys. As your Portfolio is MS-DOS command compatible, there is a wide choice of software. Adding to the flexibility of the Portfolio are serial and parallel interfaces as well as memory modules to expand memory to 640k. There is also a card-drive enabling your Portfolio to easily transfer data to any desktop PC.

The worksheet can also act as an electronic markbook which can be printed at any time

Integrating Graphics in the Classroom

PART II IN OUR SERIES ON DESIGN

In the last issue of Go Atari we explained how easy it was to make a transition from drawing stick figures to turning these shapes into a human body. Even if you weren't an accomplished artist, you were probably able to achieve acceptable results using any of the commonly available graphics programs on the Atari ST.

To keep the momentum flowing, we asked Rita Plukas to continue her series on human anatomy, this time focusing on the human head. Follow each of her steps and more importantly, good luck in your search for a cooperative model.

Drawing the Head in six easy steps
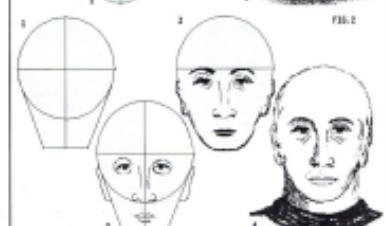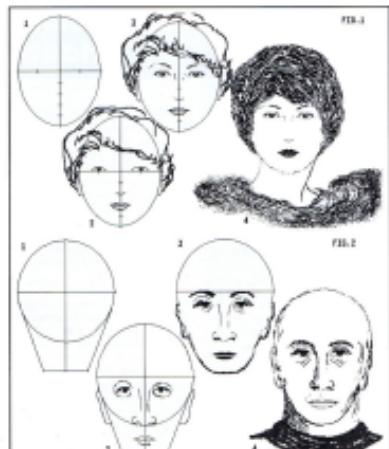
Before we start drawing I should stress that you should not expect too much at first. Don't expect to get it right the first time, or even the third time, but keep trying and eventually you will produce some good work.

It is very difficult for a beginner to draw acceptable faces; it takes artists a long time studying the skull and general anatomy to achieve the harmony, form and structure that you see in their finished works.

Once you feel comfortable with the standard (basic) drawing technique then you can start attempting to draw heads from different angles. But first get the feel of where things ought to be and then concentrate on detail and experimentation.

Most people are not able to construct a well proportioned face because they violate the equilateral law of facial feature placement. Some elements may be well drawn, but if they are not in the right place the whole thing will look wrong. When you look closely at a face there is an equilateral triangle outlining its two main features.

Draw a line from one outer eye socket to the other outer eye socket, then to the middle of the base of the bottom lip, and then back up to the starting point. If everything is positioned correctly you will find that all three lines are of equal length. The most

common mistakes people make when drawing faces are eyes that are too close together and/or the wrong size; noses that are too long or too short; mouths that are too far removed from the eyes and chins that are too big or too sharp.

By using the equilateral triangle to test your arrangement of the eyes and mouth you have less chance of placing these two most important features in the wrong position. If these two features are right then you can make other adjust the others, or at times even get away with incorrect treatment of the less important features.

The human head, like the human body, has a basic structure. In this article I will concentrate on what I find is the easiest method of drawing a face. Apart from the egg shape and basic circle that we will be using as guides, there are many other structures including double circles, squares etc.

If further instruction is required I would suggest you have a look in your local library for 'How to draw' books or anatomy books for the artist.

As you practise drawing think about what you are doing, especially when drawing the framework. When the framework is correct you will be off to a good start.

If you can find a person with very short hair, have a good look at how the head, neck, shoulders and the hair flow into each other, then concentrate on the basic head shape, forgetting about the

actual facial features. If you are not lucky enough to find a cooperative 'skinhead' then study drawings and keep checking that your proportions are correct, or at least sympathetic to each other. In the same way that the understructure of the human body must be correct, so must the understructure of the head be correct.

The first method we shall use to draw our female head is the egghead method. (Fig.1) (On this occasion, I have used a female head, instead of the male head. It doesn't really matter which you learn from, as the structure can be used for both.)

The Six Steps

1. Using your art package draw an ellipse in the shape of an egg. (Use the circle mode to create the ellipse.) Have the height about twice the width.

2. Divide the egg equally both horizontally and vertically. Mark off the horizontal line in fourths. Mark off the bottom half of the vertical line horizontally. Draw in your eyes on your top wide and you can then use this as a further guide for the size of the various facial features. The eyes would then go into positions two and four. The width of the nose is the same width as the eye and would go in position three. By simplicity I will continue using this format.

3. Place the eyeballs above the two marks on the horizontal line. Mark in the nose line positshed on the second mark down on the vertical line from the bottom of the vertical line. (Fig.1.2)

4. Sketch in the upper eyelid lines and the outer lip lines approximately one quarter and a half to two eyes long. The width of the average female mouth is half an eye, the distance

from the top of the mouth to the nose is another half an eye. The width of the top lip is usually about one third the depth of the mouth, but this will vary.

Draw the ears. The top of the ears starts level with the eyes and finishes near the nose line. The size and shapes of ears also vary. Draw in the outline for the hair. (Fig. 1.2)

5. Sketch in the centers for the top eyelids over the eyes and the suggestion for the lower lids. The inside corners of the eyes will be on the horizontal line while the outside corners may be level with or slightly below the eyelashes to the top eyelids. Smooth out the eyes to a more circular shape and add the pupils.

It would probably be easier if you did this using the magnify mode. Draw in the eyebrows about half an eye's distance from the eye. Add the bridge line of the nose. (Fig.1.3)

6. Colour the hair and the lips. Clean up the nostril area, all you need is a slight "V" shape to suggest the shadow under the nose. Erase your guidelines. Draw in the chin, neck and shoulder lines. Look at your drawing and adjust anything that does not look right, pay particular attention to the chin, neck and shoulders. (Fig.1.4)

Congratulations, you have now

drawn a face in six easy steps. Every face you draw will look slightly different. Don't stop at one. Carefully draw a dozen or more until they begin to look right.

After a while you will find that you no longer need to carefully mark off and measure each step of the way, but you will be able to visualise the understructure as you draw.

I find it easier when I work never to start on any individual feature and carry it to completion, but to think of the head as a whole unit. I indicate feature placement and then go back and forth several times from one feature to another. This prevents me from losing the concept of the whole at the expense of the individual features.

If you find it difficult to get both eyes matching try drawing just one eye and eyebrow and do a block copy. Then flip this, to get an exactly reversed duplicate for the other eye. Carefully place it in position. Make a few minor changes, because both sides of the face are NEVER identical.

Don't rely on this method, but it could save you some frustration in your early attempts.

When you have a drawing that you are happy with and have made your final adjustments, you could use the magnify mode to touch up a regular basis, especially before any major or tricky changes) start manipulating it by stretching, flipping, distorting.

Try doing a block copy of ONE HALF of the face, flip it and paste it to the original half. Compare the subtle differences between the original face and what you have now.

Then take the OTHER HALF of the face and do the same thing. Subtle differences are interesting and can be put to use in a composition involving faces. This is the technique I used in the monochrome screen Twofaces which is based on the exercise for this article.

After studying and practising for so long you can use the same approach in drawing the male head which reveals a stronger bone structure.

The lip line is thinner and wider. The jaw is heavier and more strongly defined and the cheekbones are more stressed. The neck is also thicker. Figure 2 shows a male face. I used a circle structure for this, but only to demonstrate another method for drawing the basic head shape. Look at the steps involved and draw it for yourself.

RATIOS: Basic oval is approximately one and a half by one. Width of eye is one fifth of the width of the face. Use the width of eye as the unit of measurement for size and position of other facial features.

FEATURE	EYE WIDTH
Height of eye	0.5
Gap between eyes	1
Width of nose (nostril area)	1
Length of nose	1.5
Length of mouth	1.5 to 2
Bottom of mouth to chin	1
Bottom of nose to bottom of lips	1
Bottom of eye to top of eyebrow	1

SELECTING THE RIGHT GRAPHICS SYSTEM FOR YOUR SCHOOL

INFANTS

HARDWARE:
Atari 1040STE
Atari SC1224 Colour Monitor
Dot matrix printer

SOFTWARE:
Kid Sketch, ZZ-Rough
Hyperpaint, Flair Paint
Neochrome & Clip Art

PRIMARY

HARDWARE:
Atari Mega ST2
Atari 1040STE
Atari SC1224 Colour Monitor
Dot matrix printer
Hawk Cordix Hand Scanner

SOFTWARE:
Neochrome, ZZ-Rough
Cyber Paint, Flair Paint
Degas Elite
Clip Art
Sketch

INDUSTRIAL ARTS:
sign Disks
Beckercad

SECONDARY

HARDWARE:
Atari Mega ST 2 + 4
Atari 1040STE
Atari SM124 Monochrome
Monitor
Atari SC1224 Colour Monitor
Atari Megafile 44
Atari Megafile 60
Dot matrix printer
Hawk CP-432 Scanner

SOFTWARE:
Sketch, ZZ-Rough
Cyber Paint, Flair Paint
TouchUp
Degas Studio
Cyber Paint
Cyber Sculpt
Quantum Paint
Clip Art
Spectrum 512
Mega Paint Professional

INDUSTRIAL ARTS:
GFA Draft +
Beckercad
DynaCADD
Cyber Studio
Cyber Sculpt
Antic Design disks

'Tis a Colourful World

Linking such aspects as colour, perspective, shading and rendering to your carefully constructed image is a task that requires patience and skill.

To make the task easier, there are many powerful colouring tools for the ST that make illustration in colour both fun and experimental. That's right, with a click of the mouse you can mix your palette on the screen to produce both subtle and dramatic results.

If you are working with the junior school, then you will be pleased with the results you can achieve with either NeoChrome, Hyperpaint or ZZ-Rough. ZZ-Rough has to be a personal favourite, it's unique library of tools includes everything from colour tinting tools to fancy pens to the traditional French Curve. It is easy to use, so much so that the results are likely to speak for themselves.

As your students advance, introduce them to Cyber Paint. Not only will it allow you to load most of the popular ST graphics formats, it will allow you to animate any of the objects contained in the image. That's right, men can be made to float across the night sky or ships to sail across the sea. Cyber Paint also includes its own powerful painting and tilting features, the ideal features for creating your own school movies.

If it is super real imagery you are after, step up to Spectrum 512. With Spectrum's ability to display over 23,000 colours simultaneously, combine a video camera with the lesson to produce beautiful montages or mix and match the many beautiful hues and colours that form part of Spectrums powerful range of colouring tools.

Illustration Tools
POWERFUL PROGRAMS THAT GET RESULTS
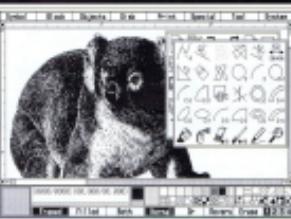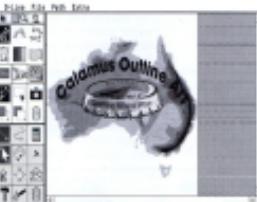
MEGAPAINT PROFESSIONAL combines vector and raster tools in the one program, together with an impressive range of drawing tools, with an auto-trace function for the conversion of raster images to vectors.

Megapaint includes many technical drawing features not normally found in conventional illustration programs. The publishers have also included a unique "mailmerge" feature from within Megapaint's own built-in text editor. This feature allows graphics to be easily merged with your everyday correspondence. As you would expect of a package of this stature, support is included for the Atari 19" monitor and Laser printer.

TOUCHUP: A powerful GEM based program that offers the unique feature of being able to create images that are larger than a single window using a virtual paging technique. As you scroll around the drawing screen, sections of the image are pulled from disk. Effectively, TouchUp enables you to custom tailor the page size and resolution to your output device providing highly detailed editing control.

TouchUp includes a conversion module that allows images to be loaded from most of the popular graphic formats. This includes MacPaint, DEGAS, IMG, PCX, TIF and TNY. TouchUp can save images in the same format with the inclusion of GIF, IFF-ILBM and Print-master clip format.

SKETCH: Displaying a high level of integration with scanners, drawing tablets, Script and Signum 2, Sketch is a must for any illustrator or anyone requiring high quality presentation.

Sketch has been designed to use all the memory of the ST, providing a staggering 100 drawing screens on a MEGA ST4. Comprehensive cut and paste facilities, including such features as rotate, bend, outline, copy, mirror, shadow and drag. Precision work in Sketch is enhanced using snap to grid, coordinates or individual pixel editing. Images can be viewed in three-dimensional objects in either wireframe or filled mode. Object animation is also included as a standard feature.

CALAMUS OUTLINE ART: As a vector orientated graphics program, the principle strength of Outline Art can be found in its ability to manipulate text. Text can be rotated, stretched or transformed using a programmable calculator. This includes predefined functions such as SHIFT, ROTATE, MIRROR, ENLARGE, SHRINK, PROJECT onto a sphere, globe, cylinder, cone etc.) Text can also be converted into a vector object allowing individual characters to be shaped and contoured.

In freehand mode, powerful tools allow for the creation of Bezier curves, control paths and raster areas. Compatible with the popular GEM Metafile format, images created in Outline Art can be saved in either CVG format for loading into Calamus or converted to EPS for loading into PageStream.

CLASSROOM PUBLISHING
with style and finesse

How often have you admired a publication on your staffroom table and said "Classy . . . but beyond me!" Nothing could be further from the truth.

The range of publishing software on the Atari STE is so reasonably priced that even the smallest primary school can afford it.

Word Processing - a Natural Starting Point

To many teachers mastering a word processor is usually their first step into the world of computers.

The fact that students as young as six and seven are now publishing their stories is a measure of the ease with which our younger generation have been able to absorb this technology.

While we don't deny the enthusiasm that many young students have for publishing their ideas, their increasing demands for extensions to their work can be frustrating. Requests for fancy borders, pictures, decorative fonts, or tabbed productions, has probably left you reaching for the glue pot, or scheming to upgrade your computer hardware.

To balance these demands with your budget we suggest you approach the problem on one of three levels.

Whatever path you adopt, the versatility of the Atari ST will enable you to achieve outstanding results. Read on and discover for yourself how you can become a Classroom Publisher.

LEVEL 1: Word Processing with Plazza!

First Word Plus: this undoubtedly is the most popular Atari word processor in schools across the country. Why? It is so easy to use.

A bonus feature of First Word Plus is that it includes an excellent English spelling checker just to be confused with the American method of spelling) that can be switched to a continuous checking mode together with the ability to incorporate graphics and text on the same page.

It is this last feature that elevates First Word Plus to the point of being a handy publishing tool.

Even with large pictures pasted across the screen, there is a continued ease in performance that allows you to scroll through the document with ease.

With a little bit of imagination, fancy borders and vivid pictures will soon be making your stories jump off the page!

WordFlair: combine a word processor, a database and a series of page layout tools into the one package and you have the concept of WordFlair.

If you like working with words, then you will like what this form of integration does for your classroom expression.

WordFlair combines word processing, graphics, calculations, data management and page layout tools all in the same, easy-to-use program.

More importantly, data, calculation and graph regions can be dynamically linked. In effect, students can create documents and graphics with powerful "what-if" conditions. For example: WordFlair is ideal for modelling conditions in science experiments or reports involving grids of tabulated information.

The word processor module in WordFlair has support for the full range of GDOS fonts together with multiple columns, headers and footers, find and replace and mail-merge functions.

More importantly, WordFlair allows you to import any of the popular Atari clipart into your document with genuine text wraparound.

A new upgrade from the publishers of WordFlair now offers access to a series of quality scaleable outline fonts, a spelling and hyphenation dictionary, the ability to option to merge external equation database files and a powerful image conversion utility.

Script: this fine product hails from Germany and is from the same publishers as the renowned Signum 2 word processor. Designed as a medium performance word processor, Script uses a similar interface to the popular Macwrite word processor. All the usual typographical controls can be selected by clicking and dragging with the mouse. At last count there were some 300 different fonts available for Script, including many foreign fonts such as Arabic, Bengali, Farsi, Greek and Gujurati. Script has its own spelling dictionary as

well as a module to convert most of the popular Atari clipart formats across to Script.

LEVEL 2: Making Desktop Publishing Easy and Affordable

PageStream: the difficulty with many Desktop Publishing programs is that they presuppose an extensive knowledge of typography and design.

Not only is the language level too high for many students, but the many subtleties and nuances make it difficult for students to achieve impressing results.

PageStream cuts away these barriers by presenting an interface that is intuitive without diminishing the excellent results that can be achieved with this program.

With features to rival many of the best publishing programs in the industry, PageStream provides a balance of functional and advanced features to allow you to achieve superb results.

With the option to import the majority of word processing and graphic files from across the spectrum of packages in use on the Atari ST, the migration from word processing to desktop publishing becomes a relatively pain-free step.

LEVEL 3: Professional Publishing with Style and Finesse

Calamus: this program is not just a desktop publishing program, it is a complete document production system.

It is almost serious about the publishing activity in your school, then very probably be hard pressed to find a system for the same price that rivals the results which can be achieved with Calamus.

With the ability to scale fonts from an amazing 0.1 to 999 points (that's 35 centimetres in everyday language) on the screen using outline fonts that display exactly What You See Is What You Get, together with powerful formatting and text routing features, the results speak for themselves.

If you are looking for a system to publish your school magazine or first novel, then Calamus is the system to choose.

The authors have designed the system to use the industry standard Compugraphic font system. This means that the identical typefaces found at your local printer can be displayed on the screen and printed from the system. This includes such popular font families as Souvenir and ITC Garamond, together with decorative faces such as Wedding Text, Old English and Brush Script.

With a associated font library of some 2500 type faces available for Calamus, these same faces can either be printed on the Atari Laser printer at 300

dpi or output to a Linotronic imagesetter to achieve professional publishing quality. In fact, this complete document has been edited and assembled using Calamus. Proof pages were generated on the Atari Laser printer with final output in A3 format on an L300 imagesetter. We chose to print the page at 1440 dpi — better output is possible from Calamus by outputting at 2540 dpi. This gives impeccable results and is recommended for the production of half-tone artwork or pages that are required to be output direct-to-film.

Fonts that Please the Eye

A good library of fonts is vital for effective communication. Associated with Calamus are a selection of fonts from the Agfa-Compugraphic, URW and Linotype type foundries. These companies provide a range of faces that are sure to please even the most discerning users.

Listed below are just a few of the more popular typefaces — a list that currently exceeds 2500 faces.

Sans Serif
ITC Avant Garde
Antique Olive
Futura II
CG Triumvirate
Univers

Serif
Garamond
Garth Graphic
CG Palacio
Souvenir
CG Times

Script & Brush
Brush
Quill
Dom Casual
Linos Scapt
Park Avenue
Wedding Text

Symbols
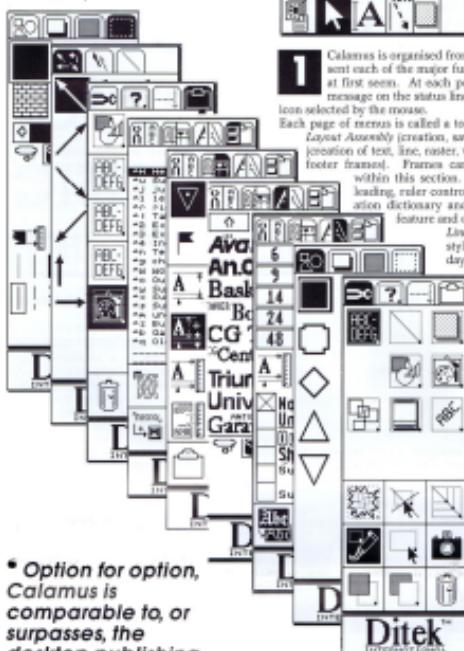
calamus

Calamus Outline Art - a vector graphics art program with powerful typesetting and typographical control

calamus FEATURES FOR EVEN THE MOST DEMANDING USER

Calamus is structured from a set of hierarchical menus which represent each of the major functions. This is less daunting than it may at first seem. At each point, Calamus displays a convenient help message on the status line providing a point-by-point guide to each icon selected by the mouse.

Each page of menus is called a toolbox and there are five toolboxes called: *Layout Assembly* (creation, saving and deletion of 'stylesheets'); *Pointer* (creation of text, line, raster, vector, graphic, rotated, grouping, header/footer frames). Frames can be copied, deleted or protected from within this section. *Text* (selection of font, size, pagination, leading, ruler control for tabs, indents, submenus for hyphenation dictionary and tracking. A powerful macro handling feature and clipboard is contained within this section).

1 ... Lines (types, line shadow, line raster and style). *Raster area* (this is 'tonal fill' in everyday language and includes options for border thickness, fill types and percentages, drop shadows and a selection of 15 standard shapes, ie: stars, rectangles, borders).

2 ... Calamus offers one major advantage over its DTP competitors - it offers outline fonts. These fonts provide an exact facsimile on the screen of what will appear on the printed page. These same fonts are scaleable from 1 to 999.9 points in one tenth increments. In everyday language, these are fonts that can be enlarged to over 35cm tall on the screen and output to either a dot-matrix or laser printer. Picture 3 shows the letter 'g' at an 800 point letter at a zoom factor of 200%.

3 ... Typographical control is a major feature of Calamus. Text can be rotated in 1 degree increments (pic 1) with incremental control over both letter, word, line and paragraph spacing.

As you would expect, text can be forced to flow around frames containing either pictures or text (pic 2).

For tabloid or magazine work, pages can be laid out in either landscape or portrait positions with a maximum page size of 55cm wide x 70cm high. This is equivalent to displaying two A3 sheets side-by-side, adequate for even the most demanding of publications.

Fig 1: text can be rotated through a full 360° in 1° increments

Fig 2: text can be forced around either text and object or around a photograph

Fig 3: Calamus outline fonts are scaleable to 999 points on both the screen and printer, in increments of 0.1 point

Option for option, Calamus is comparable to, or surpasses, the desktop publishing competition"

Start Magazine, May 1989

DTP Peripherals – Getting More from your System

If you are serious about a desktop publishing system for either the classroom or front office, check out each of these products. We have been selective in listing what we consider to be our favourite tools for the job.

Hawk 432 scanner: this product is considered by many, as the Rolls Royce of peripherals on the Atari ST. Offering unparalleled performance and quality with up to 400 dpi scanning on an A4 page, the Hawk 432 can also be used as an OCR reader. The Hawk 432 scanner includes Scansoft and HBJ Paint with the system enabling sophisticated tonal control and image manipulation – ideal for the capturing and reproducing of quality line art and photographs.

Hawk Corbi: this unit is an entry level hand scanner, which despite its small size and competitive pricing offers many of the advanced features of the Hawk 432, including 100, 200, 300, and 400 dpi scanning, up to 32 grey levels sensing and a 105 mm scan width. The Corbi includes both Scansoft and HBJ Paint together with a modified version of AUGUR OCR, the outstanding optical character recognition software. An excellent package at an excellent price.

Atari SM194 monitor: If you are serious about desktop publishing, then you should consider this monitor. With a resolution of 1280 x 960 lines (91 dpi), programs like Calamus and PageStream easily come alive. *Atari SLM804 Laser printer with UltraScript:* the undisputed leader in the value for money laser printer stakes. When using UltraScript they can achieve the meeting of speed when the printer outputs your first page in less than 15 seconds. Alternatively, purchase UltraScript and the associated hints to give the SLM – 804 genuine PostScript capability at a fraction of the accepted cost.

FOLLOW OUR SYSTEM CHART AND SELECT THE RIGHT CLASSROOM PUBLISHING SYSTEM FOR YOUR SCHOOL

LEVEL	COMPUTER	SOFTWARE
INFANT	Atari 1040STE	Kid Publisher Professional,
	Atari SC1224 colour monitor	Certificate Maker & Clip Art
	Atari Dot Matrix printer	Print Master & Clip Art
PRIMARY	Atari 1040STE	First Word Plus
	Atari SM124 monochrome monitor	WordArt
	Atari SC1224 colour monitor	Print Master & Clip Art
	Atari Dot Matrix printer	Woodfair
		PageStream
		Easy Draw Supercharged
		ZZ–Rough
		Hyper Paint
SECONDARY	Atari MEGA ST2-4	Calamus Publisher's Pack
	Atari 1040STE	PageStream
	Atari SM124 monochrome screen	Woodfair II
	Atari MEGAFILE 30-60	Scansoft & HBJ Paint
	Atari SLM-804 Laser printer	Calamus Outline Art
	Hawk Corbi scanner	Sketch
		Easy Draw Supercharged
		Easy Draw Scan Art
		Mega Paint Professional
		Touchup
		Sketch
ADMINISTRATION	Atari MEGA ST4	Calamus Publisher's Pack
	Atari SM194, 19" monitor	Calamus Outline Art
	Hawk 432 scanner/OCR	Scansoft & HBJ Paint
	Atari SLM-804 Laser printer	Mega Paint Professional

Ditek logo (appears multiple times in image area)

Computer technology for creative music

Over the last decade there has been a change in the way we create and present music. Composers now use computers to unleash the full potential of their creativity. With the computer as the control centre, you become the conductor; you control the orchestra.

In the music classroom the computer can be used as a teaching aid, providing personalised tuition for students under the guidance of the teacher.

In today's maze of technology computers offer varying degrees of music capability. Most have a built-in synthesiser which can produce some form of music or sound.

This restricts the musical potential as in most cases the computer's built-in synthesiser has been designed to produce only sound effects for games.

The professional solution is to use a Musical Instrument Digital Interface (MIDI). This industry standard connection allows communication between most modern electronic music instruments and the computer. Today nearly all contemporary music is recorded and performed using this method.

The Atari ST has become the standard in the music industry because of its built-in MIDI interface, its wealth of music software and because musicians recognise it as a cost effective solution. The majority of new music software is published almost exclusively for the Atari ST.

Because there is an overwhelming amount of music software available for the Atari ST, researching which software package to use in your education situation can be a time consuming, if not daunting, task.

In the following section we discuss some of the major music programs available for the Atari ST and indicate which category they belong to.

MUSIC AWARENESS

FM Melody Maker

An excellent entry into this field is the FM Melody maker package. This offers all the tools necessary for demonstrating the melodic and rhythmic elements of music and is an excellent tool for melody dictation.

With the supplied hardware cartridge the Atari ST is transformed into a seven piece band offering a unique experience for students aged between 7-12. For the users annotated studies the FM Melody Maker is an excellent tool for teaching notational skills, with the addition of a MIDI keyboard, the sequencing section is the perfect tool for recording performances.

EAR TRAINING

Aura

Aura acts as a universal pitch

and rhythm-training system, offering features such as scale training, intervals, chords, chord recognition, melody and rhythm dictation. All results are simultaneously displayed on three graphic levels including single or dual stave, on-screen graphic keyboard and informative text display boxes. An automatic marking system offering statistical analysis of a student's progress can be accessed at any time.

The Ear

This is a complete aural training program that teaches intervals, scales, chords, cadences and aural dictation. Students' results can be monitored or stored in the built-in database and varying levels of skill can be set by the teacher prior to the start of an exercise.

Music Master

For intermediate to advanced students Music Master offers ear training encompassing intervals, scales, chords, and melodies. Graphic representation is selectable in the form of piano guitar or musical stave. An easy to use on-screen piano graphic enables the user to select the note and move it, and repeat the main features of this locally developed package.

MIDI EDUCATION

MIDI-A

MIDI-A is a powerful analyt-

ic tool which enables a student to view and thus learn all aspects of the MIDI protocol. Full graphic representation of all MIDI events including note on, note off, program changes, all 127 continuous controllers, pitch bend and all system exclusive data may be viewed on screen simultaneously. EZ-Label-Plus also offers a universal MIDI data storage facility.

SEQUENCING AND COMPOSITION

Using a sequencing program is very similar to recording music with a multi—track tape recorder. The computer will record all MIDI information played on a MIDI instrument such as notes played, their duration, dynamics and tempo. From this point you can edit and arrange this information into a complete performance which can be saved to floppy disk for future retrieval.

EZ-Track/EZ—Score Plus

One of the first entry level sequencing programs EZ-Track emulates the procedures used in professional multitrack tape recording. Operation of the program is easy for the student to understand and follow. EZ-Track offers real time recording with up to 20 tracks. An optional score module, EZ—Score Plus will transform performances recorded with EZ-Track into music notation offering features such as play back through a MI-

DI instrument, automatic screen scrolling and lyric capabilities.

TEN TRAX

Designed for compatibility with Roland Corporation's CM-Series of computer sound modules and peripherals Ten Trax is the perfect entry to intermediate level sequencing program. An extremely friendly mouse-driven graphic interface allows the student with limited knowledge to explore a high level of composition.

The main screen display resembles the operation of a 10-channel studio mixing console with recording controls presented in the form of a tape transport. Editing of MIDI data is done on a music stave with drum

editing available in the form of a percussive grid.

PRO—12

This is a sequencing program that emulates a tape recorder. With 12 tracks and a score editing section it offers all the features necessary for the student to gain an understanding of essential sequencing functions.

The potential for expandability PRO—12 is file format compatible with more advanced Steinberg research programs such as PRO—24 and Cubase.

PRO—24

Designed as a professional sequencing package and big brother to PRO—12, PRO—24 offers features essential for professional music composition.

Advanced features such as graphic editing, score editing and drum editing screens coupled with its ability to record 24 tracks makes PRO—24 a good choice for the serious student through to professional.

CREATOR

A high level sequencing program for the advanced student offering 64 tracks and a priority controlled multi-tasking environment. The ability to capture all the subtle nuances of a performance places creator in an elite league.

Built-in groove design and real time transformation of MIDI data add to the wealth of powerful features. Editing is done on a graphic piano roll-like grid. Creator's file compatibility with the Notator program makes it an ex-

Ten Trax — the perfect entry for intermediate level sequencing

Notator — a professional tool for composing, arranging and playing music

Breakthrough in music education

CD-ROM FEATURES WORLD'S FIRST INTERACTIVE MUSIC APPRECIATION PROGRAM

Imagine you are seated with your music class before an orchestra. As the auditorium lights dim the audience conversation diminishes to a subtle murmur. The conductor taps his baton and, as a subtle melodic passage softly issues forth he begins his explanation of the various sections of the orchestra.

The music gradually intensifies as different instrument sections are introduced. The conductor continues with his aural and visual explanation of the individual instrument sections. At the introduction of the percussion section the music comes to a culmination of power and grandeur and then recedes into resounding applause.

You and your students have shared in a heightening experience and one of the many features available in SoundScape, the world's first interactive music appreciation program.

During the past 12 months the final

stages of this exciting and unique music education tool have been realised. SoundScape is the harnessing of digital audio technology in the form of the Atari

CD Rom under the control of an Atari ST computer.

Dennis Patterson, a lecturer in computer music at the NSW State Conserva-

torium of Music, realised the potential of this system. He and Alex Sadro, a professional software engineer, aimed to develop a software package specifically for Australian schools.

Using conventional audio compact disks for realistic high fidelity music reproduction SoundScape teaches every element of music, including melody, harmony, rhythm, tonal colour, dynamics, and orchestral and performance techniques, by using colour diagrams, animations, texts and scores that can be activated by play recorded music.

The complete SoundScape package includes lessons which can be tailored to your individual teaching needs with the "hypertext" authoring system. The Trinity CD recording of Benjamin Britten's Young Persons Guide to the Orchestra is also part of the package, demonstrating the superb results that can be achieved with SoundScape.

Music on the Atari ST

SEQUENCING and MUSIC PUBLISHING

A sequencing/music publishing program will transform a MIDI recording entered in "real" or "step time" into conventional music notation. The tools available to the teacher and student are very similar to a desktop publishing or word processing program.

Complete libraries of music symbols are provided with the ability to add chords, symbols dynamic markings, comments and lyrics.

From this point professional looking scores can be achieved by printing to most industry standard printers including the Atari SLM—804 laser printer at a resolution of up to 360 Dots Per Inch (DPI).

If you have ever undertaken the task of scoring the parts for the school orchestra then, an Atari music publishing system is undoubtedly the solution to your problem.

Music publishing is the perfect tool for the student studying composition because a performance can be aurally monitored before submission to the teacher.

Tiger Cub/Quickscore

Designed for the student aged 12 and over this excellent value-for-money sequencing program offers features normally found in more expensive programs at a fraction of the cost.

Tiger Cub has two main screens, each of which performs different functions. The main screen emulates a tape recorder for simplicity of use. MIDI data is edited on a graphic editing screen, where data is represented in a piano roll format.

Many of the functions of these two screens overlap (in fact, each screen has more functions than are available on many other so-called "entry-level" programs) enabling the certain aspects of the music-making process.

In addition to the two main screens, Tiger Cub includes an additional program module,

called Quickscore, that is used to view and print music in standard notation. Supporting a wide range of printers, (excluding the Atari SLM-804) Quickscore is actually a separate program that can be executed from within Tiger Cub, so it acts just like an extension of the sequencer.

NOTATOR SL

Notator makes available the unique integration of MIDI and notation in a true multi—tasking environment.

It is a professional tool combining sequencing and playing music using any MIDI instrument and the Atari ST personal computer.

While playing a musical phrase from any MIDI instrument Notator has the ability to simultaneously display the performance as notation. Alternatively notation can be entered directly using the mouse.

Either forms of recording can be comprehensively edited with tools such as transpose (including enharmonic), quantize (timing correction), graphic and dynamic marking and full clip-board functions.

The finished composition can then be printed using Notator's powerful printing functions.

NOTATOR ALPHA

Little brother to Notator SL,

Notator Alpha encompasses all the essential features contained in Notator SL in a cost effective 16 track format. Designed specifically for the classroom, Notator Alpha contains all the tools necessary for the student studying performance and composition including: real or step time recording, comprehensive score editing features and the ability to print music notation. File compatibility with Notator SL means students can submit their work to the teacher on a floppy disk for final assessment.

CUBASE

Based on the use of windows, Cubase version 2.0 offers teacher and student a comprehensive, yet simple, graphic—based environment to which to work.

Editing of MIDI data can take place from the score, drum, piano roll or grid editing window and changes made are automatically shown in all windows. Score printing to all industry standard printers at a resolution of up to 360 DPI has been added to the latest version.

Designed as a high level sequencing/scoring package Cubase version 2.0 runs under a true multi-tasking environment.

THE COPYIST

This package is specifically designed to compose and print

music. A high level program with extremely powerful notation editing functions including: transposition, chord symbols, dynamic markings, accents, rests, staccato points, pedals and trills, repeat markings, slurs and insertion of text.

Support for all industry standard printers makes this an ideal tool for the advanced student to compose music or print out a floppy disk for final assessment.

SOUND CREATION and EDITING

Because of the advent of the MIDI interface manufacturers of electronic music instruments are usually provide a means for editing their instruments by computer.

Today nearly all mainstream synthesizers and sound sampling instruments have some form of graphic editing software package available for editing their internal sounds.

These software packages give you a visual representation of the internal workings of the synthesizer.

In the case of the sound sampling instrument, graphic representation of sound waveforms is made possible by the computer.

This is not only a valuable tool for the music student as it offers a new and exciting avenue for the exploration in the studies of sound and waveform creation.

DIGITAL RECORDING and the ATARI ST

The analogue multi-track tape recorder can be found in most video production post-production houses and professional recording studios. These machines are employed in the editing and production of music for films, broadcast and contemporary recordings. Traditionally the recording tape would be edited by cutting sections out and splicing new sections together to form the final recording, a time consuming and costly procedure.

Over the past two years an exciting medium has entered the professional video and music industry in the form of digital recording and editing. The computer has made this leap in technology possible.

The cost effectiveness of the Atari ST has led to it being adopted by third party manufacturers as the front end of a complete digital recording and editing suite. Termed Direct To Disk Recording (DTDR), the user can transfer a recording directly into the Atari ST.

Compared to traditional analogue editing methods, digital editing is the stored and edited as data at a fraction of the time and cost.

Digital editing offers unparalleled features such as the ability to view recorded data on the computer's screen, and, because it is a non—physical medium the ability to view, edit in real time and time again without any degradation of the sound quality.

Level	Product Education	Sequencing/Composition	Music Publishing	Music Studio
Infant	Atari 1040STE Computer Atari SC1224 Colour Monitor Atari Dot Matrix Printer	FM Melody Maker Music Studio		Music Studio FM Melody Maker
Primary			Music Construction Set	
			ECS	
Upper Primary Secondary	Atari 1040 STE Computer Atari MEGA ST Computer Atari SM124 Mono Monitor Atari SC1224 Colour Monitor Atari MEGAFILE 30—44 Hard Disk Atari Dot Matrix Printer	EGE Track Plus Mastertracks Junior Tra Traz Pro/Twelve Tiger Cub Notator Alpha	EGE Track Plus Tiger Cub/Quickscore Notator Alpha	EGE Track Plus The Aura
Secondary Tertiary	Atari MEGA ST Computer Atari SM124 Mono Monitor Atari SC1224 Colour Monitor Atari MEGAFILE 30 Hard Disk Atari MEGAFILE 60 Hard Disk Atari SLM804 Laser Printer	Notator Alpha/SL Cubase Pro/Twelve 2.0 Master Tracks Pro ECS Level	Notator Alpha Notator SL Cubase Version 2.0 The Copyist	The Aura Music Studio MIDI—A

MUSIC

SEQUENCER PUBLISHING
These combine sequencing and music publishing in one program.
K. MINSTREL
7–12
MUSIC CONSTRUCTION KIT
5–10
TIGER CUB
7–12
MELODY MAKER
7–12

NOTATOR ALPHA
Designed specifically for education. Notator Alpha offers all the features of its big brother Notator SL in a 16 track format. Its compatibility between the Notator range make Notator Alpha the perfect choice for multi-station environments.
7–12

SEQUENCERS
A sequencer is like a digital tape recorder that records what you are playing on your MIDI instrument and then allows you to play it back and edit it in much the same way as you would edit a document in a word processor. A sequencing program is useful in teaching music composition, arranging, harmony, structure and much more... An introduction to score and performance. A sequencer is also an excellent tool for analysing personal musical performances.
7–12

CREATOR
A comprehensive MIDI sequencing package offering all the features of a professional sequencer. An ideal tool for teaching arrangement and performance.
7–12

CUBASE
This utilises a revolutionary new Web Realtime Operating System (WROS) that provides the basis for a very sophisticated multitasking music production system. Visual Ideas Processing provides the tools for displaying and editing your music easily and quickly. Includes score writing and is compatible with files from PRO-24, PRO Twelve and MIDI song file format.
7–12

EDIT TRACK
10–12

TEXTRAX
Roland's dedicated software for the CM-series computer. Install Modules and implements effects features and specifications perfect as a teaching tool. The manipulation...
7–12

PRO TWENTYFOUR II E
The most popular music program ever published, over 40,000 have been sold. PRO-24E is a 24 track sequencing program with comprehensive editing facilities that include music notation, intelligent panelling, an average song mask for the easy laying out of song structures and a specific drop off page. PRO-24E now includes a 280 page teacher's resource booklet and student tutorials.
7–12

MASTERTRACK
Midi sequencer with midi box and midi synchroniser.
7–12
MASTER TRACK PRO
10–12
TRAK 8
7–12
ABOVE NOTATION PROGRAMME
7–12

TEXTURE
A simplified 12 track version of the big easy PRO 24 sequencing program. Twelve is an excellent program for the first time user. Features include an intuitive screen layout, tape counter, the controls and the ability to display parts in traditional notation for ease of editing.
7–12

INTELLIGENT COMPOSERS
Intelligent composition and accompaniment techniques to create variations on a theme or an entire piece to create a fully orchestrated score. An excellent source of new and interesting ideas in the process of creating and composing music.

FINGERS
10–12
HARMONY
11–12
JAMMER
10–12
TUNESMITH
11–12

MUSIC PUBLISHING
These programs will take a performance or composition created on a sequencing program and convert them into a written score. This can be printed or modified by simply positioning notes onto staves on the screen. Many of the features of these programs are similar to conventional word processors in so far as how text medium is music not words!

EZ–SCORE PLUS
7–12
THE COPYIST I – Apprentice
10–12
THE COPYIST II – Professional
10–12
THE COPYIST DTP
10–12

TIGER CUB
A comprehensive sequencing and notation program. Music entry can be in Real or Step Time. Editing is accomplished via a Piano-Roll style editing grid and the editor score can be printed.
7–12

MUSIC REINFORCEMENT
NOTATOR – SL
A comprehensive MIDI music system that integrates the features of a professional sequencer and desktop music publishing package into a sophisticated yet easy to master program. Notator has many unsolicited features including the ability to convert what you are playing in your MIDI instrument into a musical score as you are playing, open music scores onto musical staves just by pointing with the mouse and editing digital drumming. Also features real time graphic editing, effects, and fully automatic transcription, arrangement, performance and much more.
7–12

MINIMUM MUSIC EDUCATION SERIES
The combined series of Note Wizard, Scale Master and Chord Magic is a powerful package of music education programs for the Atari ST providing skills training in reading musical notation, music theory, keyboard skills and ear training.
7–12

SONGWRITER
The world's first music appreciation program. With this package you can explore the instrument — you will see a colour picture of it and be able to hear the various instrument identifications. Watch the screen come to life with a colourful display depicting the sounds you create. Music appreciation includes music theory...
7–12

AURA
From the million of C–Lab, Aura is a universal out and rhythm training system presented in an easy–to–use graphic environment and covering fundamental topics such as melody, chords, chord recognition, scales, melodic and rhythmic dictation.
7–12

MIDI – A –
A comprehensive MIDI education tool designed to de–mystify all aspects of the MIDI I.O specifications. Presented in a graphic format MIDI-A answers the question "what is MIDI" by describing the functions of MIDI hardware and the programs with the help of screen action and text. MIDIA offers features such as MIDI channel information, MIDI event list and a universal system exclusive dump facility.
10–12

AURAL SKILLS BASIC CHORDS
Aural skills trainer designed to improve a student's ability to perceive and identify major, minor, dominant and seventh chords, progress reports and a final store at the completion of the exercise.
7–12
AURAL SKILLS – INTERVALS
7–12
AURAL SKILLS – SEVENTH CHORDS
7–12

BASIC MUSIC THEORY
This is a tutorial program for the beginning music student. It covers four basic music reading skills: recognition of line and space notes, comprehension of the numbering system for the musical staff, visual and aural identification of notes.

FUNCTIONAL HARMONY
HARMONIC CHORDS
A drill–and–practice lesson designed to develop the facility of harmonic analysis.
7–12

KEYBOARD MENESSOR
Review keyboard arpeggio performance and fingering.
7–12

KEYBOARD BLUES
This presents simple blues chords. The student is introduced to the 12 bar blues and can practice playing and hearing the chord changes, first with the music and then without.
7–12

KEYBOARD FINGERINGS
This presents qualities of simple chords. Comprises a tutorial on major, minor, diminished and augmented chords, chord spelling, drill together with a keyboard drill and test activity.
7–12

KEYBOARD EXTENDED JAZZ HARMONIES
Sequel to the Keyboard Jazz Harmonies and designed to teach students to identify and build 9th, 11th and 13th chords.
7–12

KEYBOARD FINGERINGS
Designed to review standard and special fingerings for the major, melodic minor and harmonic minor scales.
7–12

KEYBOARD INTERVALS
Keyboard Intervals is designed to help music students learn to play major, minor, diminished and augmented intervals.
7–12

KEYBOARD JAZZ HARMONIES
Teaches chord symbols, 7th chord recognition and chord spelling. A basic knowledge of keyboard notation and music theory is useful.
7–12

KEYBOARD KAPERS
Three challenging piano keyboard games that use a MIDI keyboard. Keyboard Chaos, Mystery Notes and Rock Keys.
3–9

KEYBOARD NAME GAME
A drill–and–practice game that teaches note position in the treble and bass clef.
7–12

KEYBOARD NOTE DRILL
Designed to increase a student's speed in naming notes in the keyboard of the bass and treble staves.
7–12

KEYBOARD SPEED READING
A drill which requires the user to play as quickly as possible sets of notes presented on the computer screen. Simplifies the teaching of sight reading.
7–12

KEYBOARD TUTOR
Exercises for learning elementary keyboard skills that include a knowledge of the keys, piano keys matched to notes, notes matched to piano keys and whole steps and half steps.
7–12

KEYS
An effective entry level program that coordinates the Atari ST and the any synthesiser or MIDI instrument for the teaching composition. This program uses sets of real time visual cues for note naming and playing music on screen as well as including an auto-accompaniment of full features themes and harmonies from scratch or from your own music.
7–12

MUSICAL STUDIO
An aural—visual drill-and-practice game that introduces intervals relationships to the young student.
7–12

SUPER CHALLENGER
An aural—visual game designed to increase a student's tonal memory of a series of pitches played by the computer. Each pitch is reinforced with a colour representation of a keyboard on screen.
7–12

MUSIC MASTER
Comprehensive ear training program encompassing six levels of music education. clicks intervals, scales, chords, cadences and aural dictation. This program is completely interactive, with the computer able to either research a student or advise the student where they might have been incorrect. A complete record of each student's progress is kept for the teacher to review.
10–12

EDITOR/LIBRARIANS
These programs allow you to edit the sounds in your synthesiser and store them on disk. The advantage is being able to graphically see your sound on screen instead of trying to work with a tiny LCD screen, invariably save both time and money. Some programs even have artificial intelligence algorithms to create additional new sounds, even database functions for sorting and arranging your sounds.
X–OP DRUM
7–12
CAPTURE 12 – 1000/1110
7–12
CAPTURE 32 – 1360/50–80
7–12
CAPTURE – SQ
7–12
CAPTURE MT – SZ
7–12
CASIO VZ–1
7–12
CZ–RIDER
7–12
D–110 LIBRARY #1
7–12
D–50 LIBRARY #1
7–12
DR. T'S
7–12
DX HEAVEN
7–12
ESQ–1
7–12
GENPATCH
7–12
K1 EDITOR
7–12
KAWAI K–1
7–12
KAWAI K–5
7–12
LEXICON PCM–70
7–12
M1 EDITOR
7–12
MT–32 DESIGNER
7–12
MATRIX EDITOR
7–12
PROTEUS EDITOR
7–12
SOUND DESIGNER
7–12
SUPER LIBRARY #1
7–12
SUPER LIBRARY #2
7–12
SYNTHWORKS DX/TX
7–12
SYNTHWORKS ESQ–1/SQ80
7–12
SYNTHWORKS K1
7–12
SYNTHWORKS KORG M–1
7–12
SYNTHWORKS MATRIX 6/1000
7–12
SYNTHWORKS TX81Z
7–12
TX81Z EDITOR
7–12
U–110 LIBRARY
7–12
X–ALCHEMY
7–12
X–OR
7–12

SYNCRONIZERS – SMPTE/BBU
Syncronizers allow you to synchronise your sequencing program with a tape recorder or video tape player – this is especially useful for composing soundtracks that are in perfect synchronisation with the film or video.
ADAP IMPACTUR – BOX
10–12
SMPTE–1
10–12
SMP 24
10–12
TIME–LOCK
10–12
HUMAN TOUCH
7–12

ADVENTURE GAMES
20,000 LEAGUES UNDER THE SEA
Adapted from Jules Verne classic. A wonderful adventure game suitable for a range of reading abilities and ages for students of all ages.
6–12

LANCELOT
7–12

LEGEND OF ARTHURIAN BEAR
Faithfully tracing the legend of King Arthur, the knights of the Round Table and the Search for the Holy Grail. This game follows the story line of a book published in 1488, making this a true interpretation of King Arthur's life.
6–12

CLIP ART

BORDER PACK
Now you can add effective, attention-getting borders to your projects. Border Pack is a collection of high quality clipart orientated borders designed to help you with your desktop publishing needs. (DTP format)
5–12

CARTOON DESIGN DISK
Use in conjunction with CYBER COMB STUDIO and CYBER CONTROL. You create a collection of wonderful 3D script characters with specially designed CYBER CONTROL programs to animate them. You decide which way the heads turn, where the eyes look, how fast they move and when they walk!
8–12

DESIGN IDEAS
Over 65 layouts and designs for all kinds of home, school and business applications. Includes a large assortment of classic letterheads, newsletters, and business forms, invitations, letterheads, envelopes, business cards, plus over two dozen strategies for designing professional, provocative advertisements.
10–12

DRAW ART PROFESSIONAL
A collection of high quality object–oriented illustrations designed to help produce exciting, visual communications materials. The collection features plants, symbols, states, plus historic, sports, transportation and more. 2500 format.
5–12

HEADLINE GRAPHICS
This Art Portfolio contains over 200 ready to use graphics for all kinds of educational applications spanning a broad spectrum of art and design styles, from realistic line illustrations to cartoons and symbolic. 250 format.

SAMPLERS
A sampler will digitally record any sound – just like a tape recorder – and then play it back, since it is stored in a TM form, it can be treated as a musical system to be played back on anything from a drum machine to a piano. Most students will get a school play or end of year concert!

SOUND–TOOLS
At the forefront of digital sound technology Sound–Tools is a professional Direct—to—Disk sampling and editing package, allowing a high degree of non–destructive digital sound editing. This package stores sound directly to hard disk. Has high level audio editing packages worth tens of thousands of dollars. This type of tool is commonly employed in film making, broadcasting, advertising and sound production houses.
10–12

ADAPT–IT
7–12
AVALON
7–12
GENWAVE
7–12
SAMPLEMAKER
10–12
STEIS MAESTRO PLUS
7–12
STEREO REPLAY
7–12

SAMPLE EDITOR LIBRARIAN
A sample editor will allow you to view and edit the sounds in your digital sampler in much the same way as editor for a synthesiser performs this task. Some of these programs will even work with a synthesiser patches loaded. There are many useful software tools such as looping, truncating, fade in/out and merging and arranging sounds.

FONT FACTORY CLIP ART II
Contains over 100 illustrations in both monochrome and colour formats for travel, medicine, America, personal and music. (PD format)
6–12 $100.00

FUTURE DESIGN DISK
Modular construction set of dimensional clip art with everything you need in over... (Spacecraft, Stations, Bases, Vehicles, Robots and Androids). Detail it with any popular painting program. (Requires Cyber Studio)
9–12 $49.00

HUMAN DESIGN DISK
Populate the 3D universe with the Human Design Disk. Complete modular male and female prototypes in skeletal forms. Detail the images with any popular painting program, or bring them to life as 3D animations. (Requires Cyber Studio)
9–12 $48.00

INTERIOR DESIGN DISK
An interior decorator's dream come true. Couches, drapes, sinks, refrigerator, dressers ... everything can be composited to fit your own needs. (Requires Cyber Studio)
9–12 $48.00

MICROBOT DESIGN DISK
This disk contains advanced 3D clip art robotics design and components parts for a variety of 3D applications. Use detailed, surrealistic aesthetic to create cyborgs, both humanoid and alien. Complete with blueprints, models and design hints. (Requires Cyber Studio)
9–12 $48.00

PAINTPRO LIBRARY NO. 1
Includes 5 new ODDS fonts! Over 100 clip art symbols and many decorative borders. (PD format)
1–12 $29.95

PAINTPRO LIBRARY NO. 2
A collection of over 100 high quality graphics and illustrations selected for use in desktop communications. (PD format)
6–12

COMMUNICATIONS

FLASH
The most popular Atari communications packages of all time. Features include: built-in word processor with cut and paste; programmable "script" language; 79 command; standalone terminal and VT/RS232 emulation. Modem (VN/C ASCII and DIGIDUCI file transfers. Flash is the only configurable comm made!
6–Teacher $75.00

MINI-OFFICE II COMMUNICATIONS
With this package, you can contact virtually any system, anywhere in the world, including Viatel.
6–Teacher $95.00

SHADOW
This multitasking file transfer program works independently or with any communications application. Shadow transfers files in the background while using other programs.
6–Teacher $69.00

SUPERTEX
Excellent locally developed program covering teletext. Tutorial and reference.
6–11 $49.00

VT100 EMULATOR
Emulates cartridge with all the features of the basic "VT100 plus it provides a simple binary upload/download capabili...to any host computer as a special set–up mode that lets you predefine the ST computer's function keys. (The VT100 does not support 132 column mode)
6–12 $85.00

GRAPHICS

ANIMALS
Using animation, sound effects, music, and easy–to–use colour coding and mixing symbols, your students can sort, classify and make comparisons. Over 30 animals (vertebrates and oviparous) are included. The provided is a 35 page whole school colouring book will develop...
P–6 $39.95

CHARM/X OUTLINE ART
Professional form manipulation program to rival the very best in the industry. Colorous Outline allows you to manipulate the Compucographic fonts that have been designed for Calamus. With this program you can send text along any path including waves, outlined and irregular shapes, text transformation into vector shapes, circular text, convert or transparent letters or ramps, compress, rotate, italicize, bend, bind, stretch and distort any of these fonts. Calamus Outline also includes a vector graphic editor for lines, bezier curves and control paths. The ultimate in text manipulation software!
9–12 $625.00

CYBER CONTROL
A BASIC-like language that has been designed to enhance the powerful features of CAD–3D. Cyber Control adds two new routes: the ability to create moveable, make repeated DEGAS blocks for cel animation and the ability to create complex, curved objects that can be manipulated in space. With Cyber Control your students will quickly learn how to create sophisticated animated films through buildings, by around landscapes, inspect the undersides of a house.
9–12 $79.95

CYBER PAINT
A cel animation program with professional colours that usually cost thousands of dollars. You can use it by itself to create 2D animated cartoons or load in a three–dimensional animation and add cloud camera animations. Cyber Paint also includes a full supply of painting tools. Requires 1MB RAM
9–12 $190.00

CYBER SCULPT
Print your Spectrum 512 pictures & cel or ... on your Cyber Sculpt animation.
9–12 $190.00

CYBER SCULPT
Create fantastic shapes with Cyber Sculpt – the most controlled, 3D solid object modeller featuring sophisticated tools previously found only on high end workstations. Push, pull, bend or zoom in on models created with Cyber Studio (Requires Cyber Studio)
9–12 $190.00

CYBER STUDIO/CAD 3D
Cyber Studio combines CAD–3D, a three dimensional design program, with Cybermate, a powerful animation control language. Together they transform your ST and your ideas into realistic 3D moving images. CAD 3–D allows you to create your rich objects and scenes, depict and detail your ideas or load the 3D files from any of the Artec Design Disks and use them interactively in drawing program.
9–12 $324.95

EASY DRAW EASY TOOLS
First modules to improve the capabilities of Easy Draw: Supercharged + Angular. Inquisitor, Rotate, Convert, Polysol.
6–12 $59.95

MEGA PAINT
Vector and raster tools combined to one program, with an impressive range of drawing tools, together with an autotrace function for the conversion of raster images to vectors. Includes many technical drawing features not normally found in conventional illustration programs. The developers have also included a simple "background" feature. This feature allows graphics to be easily copied with everyday correspondence.
6–Teacher

MICROMIND
All you need is imagination. Neochrome presents a program that can draw in express now. Now you can create fine art, sign art, cartoons, and designs to vibrant colours. Easy to use.
6–12 $185.00

PRINTING
Unleash your creative talents with PaintPro. Show up to three windows on the screen at one time. Cut and paste between windows, rotate, invert, mirror, load and save blocks.
6–12 $132.12

TOUCH UP
GEM based virtual–page image creation and editing program. Now you can draw and edit bit mapped images that are larger than a single window, convert colour editing the page size and resolution.
6–12 $280.00

DATABASES

BASE TWO
Elegance and power combined in an extremely easy to use relational system. Features include: variable field types; mailto fields; and powerful sorting. An excellent database management system.
6–12 $135.00

DB MAN V5 (FRAME ST competitor)
DB Man includes three different functions: Database Management; Report Printing and Program Development. At the Database Management level you can structure, enter, retrieve or modify data. At the Report Printing level, you have an elegant, sophisticated and fully functional report ser ...
6–12 $115.00

PROTEXT FILER
A simple yet effective module for Protext that simplifies the function of performing a mail merge function within your word process.

SUPERBASE PERSONAL 2
A powerful relational database which features ease of installation, a picture relievable database, user definable fields and very fast performance.
6–12 $105.00

SUPERBASE PROFESSIONAL
The perfect partner for your school administration needs. With many of the same features as Superbase Personal, Professional includes support for LOGS together with communications capabilities and a high level language for creating your own customised applications.
6–12 $460.00

COMPUTE YOUR ROOTS
A complete genealogy software package for the Atari ST. It is fully GEM compatible with drop–down windows, complete Store History. This software has automated pedigree and family trees together ... of names, dates and events, and many other abilities which make it an ideal package for the genealogist, family historian or pursuing the family tree.
6–12 $125.00

GEOGRAPHY

DATAMAP COLLECTION 1:
Boundaries of the World
Create national political boundaries with overlay files or access historical maps with this original Datamap Collection. Requires "Maps & Legends 2.0" or greater.
6–12 $40.00

DATAMAP COLLECTION 2:
Rivers and Highways
Rivers are the world's over the world's rivers, the great highways and spectacular man–made arteries such as the Great Wall of China, the Alaskan Pipeline, the Trans Siberian Railroad and the major shipping routes. Trace the mighty Amazon, the Nile, load each file to view different scenes. Requires "Maps & Legends" module.
6–12 $40.00

MAKE–IT–MOVE
Make–it–Move, combined with a paint program, creates an excellent, inexpensive graphics system for displaying colourful business reports, professional looking titles and animation sequences for school and industrial video recordings, as well as many other applications.
6–12 $185.00

INDUSTRIAL ARTS

ARCHITECTURAL DESIGN DISK
Create CAD–3D renderings of your dream house or build an entire CAD–City from the ground up. (requires Cyber Studio)
6–12 $79.00

BIODROID
Professional level computer–aided design package that is well suited to beginners with easy to follow menus and icons. More advanced users can use BeckerCAD's built–in programming language to create exacting details in their drawings. Features include: polygons with multiple sides; freehand drawing functions; symbol libraries that conform to international DIN standards and extensive plotter, dot matrix, Atari Laser printer and PostScript support.
6–12 $425.00

CYBER CONTROL
BASIC like language designed to enhance the powerful features of CAD–3D. Cyber Control adds two new routes: the ability to create moveable, make repeated DEGAS blocks for cel animation and the ability to create complex, curved objects that can be manipulated in space. With Cyber Control your students will quickly learn how to create sophisticated animated films.
6–12 $79.95

CYBER SCULPT
Create fantastic shapes with Cyber Sculpt – the most controlled, 3D solid object modeller featuring sophisticated tools previously found only on high end workstations. Push, pull, bend or zoom in on models created with Cyber Studio (Requires Cyber Studio)
6–12 $190.00

CYBER STUDIO/CAD 3D
Cyber Studio combines CAD–3D, a three dimensional design program, with Cybermate a powerful animation control language. Together they transform your ST and your ideas into realistic 3D moving images.
6–12 $108.95

CYBER TEXTURE
Turn 2 ips or NeoChrome pictures or Cyber animations into CAD 3D objects with Cyber Texture. (requires Cyber Studio)
6–12 $108.95

DRAW ART PROFESSIONAL
Add effective eye catching graphics to your projects. This is a collection of high quality object oriented illustrations designed to help produce exciting, visual communications. Themes included are office, sports, transportation and more.
6–12 $100.00

SYNDICATE
Comparable in performance to such industry standards as AutoCAD and VersaCADD. DynaCADD is a 2D and true 3D design and drafting solution that will turn your MEGA ST into a sophisticated and powerful CADD workstation. With virtually every feature you could wish for in a professional CADD package, including support for the Atari 68881 maths coprocessor, DynaCADD sets a new level of performance its professional PC applications.
9–12 $945.00

EASY DRAW SUPERCHARGED
Object–orientated drawing program that makes it easy to create mechanical drawings, floor plans, landscape designs or any other form of illustration suited to object manipulation. With all the features you would expect in a professional drawing program, Easy Draw includes a number of powerful add–on modules which makes it ideally suited to the industrial arts or technical drawing classroom.
6–12 $229.95

EASY DRAW EASY TOOLS
Five modules to improve the capabilities of Easy Draw Supercharged: Angulator, Inquisitor, Rotator, Convert, Polysol.
6–12 $139.00

GFA DRAFT PLUS
This package has been designed as an easy and inexpensive entry point for the industrial arts student. GFA Draft Plus is easy to learn and allows future ...
6–12 $48.00

HUMAN DESIGN DISK
Populate the 3D universe with the Human Design Disk. Complete modular male and female prototypes in skeletal forms. Detail the images with any popular paint program, or bring them to life as 3D animations. (requires Cyber Studio)
6–12 $48.00

INTERIOR DESIGN DISK
After you have built your dream house with Architectural Design disk, you need to order the furniture. This is an interior decorator's dream come true. Couches, drapes, sinks, refrigerator, dressers ... everything can be customised.
6–12 $48.00

MICROBOT DESIGN DISK
This contains advanced 3D clip art robotics design and component parts for a variety of 3D applications. Use detailed, surrealistic aesthetic to create cyborgs, both humanoid and alien. Complete with blueprints, models and design hints. (requires Cyber Studio)
6–12 $48.00

PC BOARD DESIGN
Powerful interactive computer–aided design tool that automates the design of printed circuit designs. Includes library of components, auto routing and the ... With printer support the traces and connections are drawn to a printer or Hewlett Packard plotter.
6–12 $445.00

GFA DARTRACE
Steps into the domain of expensive work–

stations for a reasonable price. GOS Ram base places: wire frame objects into a 3D world and assigns different texture surfaces and different reflection characteristics. It can be used with a mouse or colour transfer and can use keys to build in animation sequences.

3D PLOTTER & PRINTER DRIVER
Supports Hewlett–Packard pen plotters and compatibles plus screen dump drivers for GestaltPlot, Epson, Okidata, IBM, colour, NEC, Panasonic, C+P etc.
£40.00

EPSON LQ GOS DRIVER
Epson 24 pin GOS driver for Easy Draw.
£15.00

HP LASER GOS DRIVER
Hewlett–Packard GOS laser driver for Easy Draw.
£35.00

HP PLOTTER GOS DRIVER
HP plotter GOS driver for Easy Draw.
£40.00

ROLAND PLOTTER GOS DRIVER
Roland GOS plotter driver for Easy Draw.
£40.00

LANGUAGE SKILLS

ABC
Teaches your students letter recognition and assists their reading and typing skills.
£30.00

ALPHABET
Children will enjoy reading these charming age-old fables, each illustrated with stunning graphics and large easy-to-read text. Aesop's Fables includes four learning modules. Aesop's Fables — along with each story are reading comprehension and vocabulary tests covering word meaning, rhyming, alphabetizing and analogy skills. Over 700 questions in total, Aesop's Fables is a learning exercise in which children are shown sets of pictures and words. A picture is shown and the child's task is to spell its name. Spelling Bells — a spelling builder conducts a spelling drill. Memory — one or two players see matching picture boards.
£30.00

ANIMAL KINGDOM
Teach your child about the wonders of the animal kingdom while developing their language arts, reading comprehension, discrimination and memory skills. Superbly graphic and includes the various zoological species including prehistoric, jungle, fish, birds, amphibians, reptiles, insects and mammals, this is a stimulating way to introduce young children to the intriguing world of science. An educational activity.
£30.00

ANIMALS
Using animation, sound effects, music and easy-to-use colour coding and visual symbols, your child can sort, match and name different types of animals. An enhancement of real and imaginary animals. Also provided is a 32 page educational colouring book with over 50 animals and birds along with a fact sheet and a 4 part colouring pencil in a science, educational activity.
£30.00

BENTLEY BEAR – ALPHABET TUTOR
Alphabet Tutor can be used as an infant's introduction to the alphabet. Colour graphics are used to instill an association of consonants and vowels with colourful pictures.
£30.00

BENTLEY BEAR – MAGICAL ANAGRAMS
Magical Anagrams introduces the concept of anagrams with a great spelling environment. It teaches spelling via a reference process and procession: problem solving, within a given timeframe. Dozens of anagrams are provided as a series of puzzles to be solved.
£30.00

BENTLEY BEAR – MEMORY SKILLS
This strengthens a young child's memory

child must correctly spell the word representing the picture shown on screen. Read and Remember — an exciting memory game covering 10 levels. Spelling Bee — an authoring system where the teacher can enter their own spelling lists and save them to disk.
£30.00

SPELL BOOK AGES 6–11
This program introduces young students to the concept of spelling. It uses lower case lettering and was developed with the aid of a primary school teacher.
£30.00

SPELL BOOK (FOR SPELL BOOK AGES)
A two disk set containing additional words and letter sets for use with SPELL BOOK.
£15.00

SPELL BOOK AGES 7–UP II
This program introduces the many different concepts associated with spelling. It uses lower case lettering and was developed with a syllabic and morphemetic words. Developed with the aid of a primary school teacher.
£30.00

SPELL PACK 1
A two disk set containing additional words and letter sets for use with SPELL BOOK.
£15.00

TALES FROM THE ARABIAN NIGHTS
A unique learning experience in reading comprehension. Your students will be enthralled with the fascinating stories of the Arabian Nights. It includes three stories with illustrated graphics: Ali Baba, Aladdin's Lamp, The Bossy Horse and Ali Baba. The main learning objectives are to develop the child's reading comprehension, sentence reading and language at skills. Each selection provides a brief comprehension test followed by a reading comprehension and vocabulary question. Also included is Sinbad the Sailor which provides interest and enjoyment while reinforcing learning skills. A large library of words and phrases is included to participate in creative writing and an authoring system to create their own stories.
£30.00

THE ADVENTURES OF SINBAD
Journey along with Sinbad as he sets out to earn his fortune and see the world. Stunning, animated graphics will capture your students' interest and imagination while building their comprehension and reading skills. Over 600 reading comprehension and synonym questions are provided based on the twelve adventures. An authoring system allows teachers to create their own stories/questions. The program includes a built-in word processor, quiz maker and concentration game.
£30.00

THINGS TO DO WITH WORDS
Three programs to increase your students' spelling and writing skills. Anagrams — re-arranging letters to spell a word. Word Maze — your students must create new words from the letters of a word provided. Jumbled Sentences — students must read a sentence and re-arrange words to make sentences.
£30.00

COMPUTE YOUR ROOTS
A complete genealogy software package for the Atari ST. It is fully GEM compatible and conforms to the GEDCOM standard. NiceHistory. This software has extensive pedigree and family tree capability of searching 35 levels at once and many other facilities making it an ideal genealogy package.
£30.00

GRANNY'S GARDEN
An action adventure that takes place in the Kingdom of the Mountains. There are nine puzzles to solve and children have been imprisoned by the Grandmother. Your students have been imprisoned in a secret cave and their children hidden in the mountain kingdom. The task is to find the missing children and then rescue the young prince and his bride.

MATHEMATICS

ADD AND SUBTRACT
This program teaches principles of addition and subtraction at six different difficulty levels, each with an on-line help function.
£30.00

ALGEBRA (VOLUME)
This is the first in a series of six progressive instructional programs. These are designed on this disk covering a wide range of sub-topics.
£30.00

BENTLEY BEAR – EQUATION BUILDER
An introduction to using four basic mathematical functions in equations. This program provides the user of the operations on mathematical operators and presents problems setting difficulty and concepts.
£30.00

BENTLEY BEAR – MAGICAL MATH I
An introduction to the basic mathematical functions of addition, subtraction, multiplication and division. It provides a variety of mathematical problems in a great playing environment.
£30.00

BENTLEY BEAR – MAGICAL MATH II
Introduces the basic mathematical functions of addition, subtraction, multiplication and division. As the student progresses so does the exercise. It is therefore of an exact mathematical drill in a logical environment.
£30.00

BENTLEY BEAR – MATHS I
Introduces the basic mathematical functions of addition, subtraction, multiplication and division of fractions. It teaches the mastery of a variety of problems involving fractions in a game playing environment.
£30.00

DECIMAL DUNGEON
You're trapped inside the crystal caverns of the dungeon master. You must choose to add, subtract, multiply or divide decimals, convert decimals to percentages, or fractions.
£30.00

FRACTION ACTION
The action takes place in the basement of the Mad Professor's Mansion where his motley crew hold the keys to the electrified gate that blocks your way to freedom. Only after answering the problems correctly will the gate tumble open to allow you to pass. You must answer to answer a variety of fraction problems. Incorrect answers are given full screen so that the students can learn the right method. The dungeon master deadly ghost. Fraction Action teaches addition, subtraction, multiplication, division and a variety of problems on three levels of difficulty.
£30.00

FUN SCHOOL 1 – FOR THE UNDER 6s
A suite of 6 colourful and exciting educational programs that include: Shape Snap, Teddy Count — numbers 1 to 10, find the spider, Teddy's Count — counting — which shape for which products?, Maths — colourful programs with numbers to complete.
£20.00

FUN SCHOOL 2 – FOR 6 to 8 YEAR OLDS
A suite of 6 colourful and exciting educational programs that include: Shopping — money and change, Build a Bridge — shape building, Number Signs — mathematical signs, Unicorn — maths at different levels, Nursery Rhyme Time — guess the rhymes, Robot Game — guess the number.
£20.00

FUN SCHOOL 3 – FOR THE UNDER 5s
A suite of 6 colourful and exciting educational programs that include: Teddy Bear — match colours, Funny Faces — build funny faces, Number Train — counting, Pick a Letter — spelling practice, Patterns — symmetry, Buzz Buzz — find the pairs.
£20.00

FUN SCHOOL 3 – FOR 5 to 7 YEAR OLDS
A suite of 6 colourful and exciting educational programs that include: Number Bike, Train Driver, Sum Stealer, Shopping — which shops for which products?, Maths Maze — guess the number, Robot Game — addition and subtraction.
£20.00

FUN SCHOOL 3 – FOR THE OVER 8s
A suite of 6 colourful and exciting educational programs that include: Packing — shapes and sizes, Caterpillar — word building challenge, Number Jump — have fun practising tables.
£20.00

FUN SCHOOL 4
This popular and exciting educational suite is available in three versions.
£20.00

MAGICAL MATH
A journey in Greek Mythology. Introduce your students to the wonders of Greek

Myths, includes three animated stories: Creation of the Gods', Pandora's Box', 'Pegasus the Winged Horse'. Teaches comprehension and vocabulary questions are included, as well as a mathematical match game for teaching spelling and a Myth Maker word processor.
£30.00

SQUARE OFF
Your educational games with exciting and animated graphics that make learning fun. Wizard Dash — the friendly wizard will help students learn to add, subtract, multiply, divide by completing and dividing. Ett's Equations — children are required to complete the equation. Blackjack — the player is dealt two cards, which must equal the card the dragon is the magic castle by correctly answering random maths problems. Troll's Tables — in order to progress students are required to solve random multiplication problems.
£30.00

SPACE MATH
Learning maths can now be great fun. Challenge the forces of outer space with this arcade style galactic game while improving maths skills such as addition, subtraction, multiplication and division.
£30.00

THREE DIMENSIONS
Three programs to develop the skills of dealing with shapes and numbers. Time Teller — this teaches students how to tell the time, using both an analogue and digital clock format, Shapes — a selection of shapes which is presented as a link in a sequence. An educational activity.
£30.00

OPERATING SYSTEMS

ALADIN
An enhancement for your existing Apple Macintosh. Now your Atari ST or Mega can run all the most popular Macintosh programs on your Macintosh. With the convenience of a plug-in cartridge and the Apple system ROMs, the ST can load printer and internal sound, Aladin converts the readability of your ST while providing a 20% larger screen and 20% performance increase over an Apple Macintosh Plus.
£125.00

MESS
An impressive implementation of Unix V, an industry-standard multi-tasking, multi-user operating system for the complete range of Atari ST machines. It features a comprehensive GEM window environment and conforms fully to the popular GEM specification provide a real-time environment that is highly compatible with popular UNIX specifications.
£125.00

PERSONAL OS–9
Designed as a friendly, system software package to allow both 16 and 32 bit ST computers. Personal OS–9 combines the enhancements of advanced features of the operating system with the ease of full screen menu prompting and windowing. The package supports: user friendly OS menus, full screen editor, OS–9 makes the multi-user and multi-tasking facility of the machine with comprehensive mouse capability and windowing facility available.
£125.00

PC–DITTO
IBM emulator for the Atari ST series. It runs thousands of IBM programs including Lotus 1–2–3, DBASE, FlightSim and many more.
£50.00

PC-WRITE

The latest version of this popular emulator that now includes an internal coprocessor board to provide your Atari ST with a level of IBM performance unequalled to that of the Atari ST. Highly recommended if you are looking for the convenience of genuine IBM compatibility on your ST or MEGA ST.

5b-Stocker $490.00

PROGRAMMING

ASSEMBRO ST

A complete machine language development package for the professional assembly language programmer.

5b-Stocker POR

ATARI DEVELOPERS KIT

A comprehensive manual that includes everything for developing software developers. Included with this package is a copy of Mark Williams C and the Atari MetaComos 68000 assembler. A valuable item to assist in the development of software on the ST and MEGA ST.

5b-Stocker POR

CAMBRIDGE LISP

Opens up the world of artificial intelligence to your students. Cambridge LISP is simple and perhaps the most powerful language yet available for the ST. It is particularly appropriate to the investigation of neural networks, simulation, symbolic algebra, and the building of natural language interfaces and expert systems.

10–12 $153.00

CYBRO III DEVELOPERS DISK

The III Developers Disk opens up a complete library of useful tools allowing you to create your own 3D applications, without the need of specialised 3D mathematical knowledge. [Requires Cyber Studio]

5–12 $89.95

FORTRAN 77

ForTeNT is not only a programming language, but a complete development system. You can program, assemble and edit dramatically enhances program development time regardless of your programming language or other higher level languages.

5–12 $153.00

HISOFT BASIC

Create near-professional quality sound effects with this program and include them in your own applications.

10–12 $90.00

HISOFT C

Australian developed and supported version of the C language with full ANSI C compatibility. Both the interpreter and development environment are offered as for the Intel 80x86 family. Motorola 68000 and similar chipsets.

5–12 $137.50

HISOFT DEVPAC ST

A complete assembly package for the ST. Calculating functions you would expect included from assembler. The editor and assembler work very fast. Users can debug programs and assemble very quickly.

5–12 $137.50

LASER C LANGUAGE DEVELOPMENT SYSTEM

Laser C provides a fast and complete C development system for the ST. With compile and link speeds averaging 15 times faster, designed to reduce the overall time required for maintaining programmer productivity. The system tools are heavily integrated for ease of use. The powerful editing and debugging facilities. Laser C includes a complete library source with key sizes a single program or an entire project, so the whole system runs at peak efficiency. This is a fully utilised the 97's GEM user interface, eliminating the need for a long and tedious compilation time.

5–12 $245.00

MACRO-ASSEMBLER V1.4

Powerful, professional tool which allows the writing of complex programs in a single page. This new version features full development system containing many editing and customising options.

5–12 $89.50

PASCAL 2 Personal

Adds the benefits of a Modula 2 to the popular and widely used Pascal language. Also ideal for frustrated BASIC programmers who want to move to a powerful structured language on the ST Pascal 2 is supported in Hisoft program includes the latest version of the ANSI standard.

5–12 $153.00

SPRITES 640

Consists of more than 640 ready-made graphics including sprites, mazes, title graphics and games. Includes a demonstration on how to link sprite-frames together to create smooth animations.

10–12 $89.95

ST BASIC

Provides a wide range of editing and debugging features. Most BASIC commands and instruction sets are easy-to-use GEM environment.

10–12 $89.95

ST SOUND

A new extended BASIC for the ST designed specifically to enable you to write commercial-quality programs and games. This is a comprehensive language with many commands making up an easy-to-use software.

5–12 $108.00

ST BASIC SOURCE BOOK

Allows the user to access the free stand-alone versions of STOS programs and games — ideal games programming.

10–12 $120.00

HISOFT DEVPAC ST

An assembler/editor/debugger/linker version 3. ST assemblers at $89.95 have new functions of the latest version to be held, TODOS, DAD, Atari 3D routines assembling conditional break points, expression evaluation including text. Another editor can run each of the program source pages.

5–12 $137.50

HISOFT WERCS

WERCS stands by Wimp Environment Resource Creation Kit. It's a valuable resource editor that will let you design, revise, alter and edit dialog boxes, menus, alert boxes, icons, text strings, etc. Simple to use, resource output is compatible with most resource editor and to GEM compatible.

5–12 $89.95

HISOFT C INTERPRETER

This software will develop, debug and test programs quickly and easily. A complete implementation of the full K&R power of the C language. The interpreter is a fast and powerful GEM-based editor with a convenient interface.

5–12 $153.00

PRODUCTIVITY

E–Z CALC

Easy-to-use spreadsheet, yet it has all the calculating functions you would expect from a spreadsheet costing much more.

10–12 $89.95

HOME ACCOUNTS

A simple to use, but extremely flexible cash accounting package. Because it is menu-driven, it is easy to get into a short time. Ideal for use in your commercial studies courses.

10–12 $90.00

E–Z CALC 2

Produce professional charts and graphs quickly and easily with the full version of E-Z Calc. This spreadsheet can be used as a standalone program, or it can be used in conjunction with E-Spread and/or E-Graph to produce the full range of graphical forces — pie charts, area graphs, line/bar graphs, stacked bar charts, high-low charts, etc.

5–12 $108.00

MINI OFFICE ST – SPREADSHEET

Business and personal finances are made easier for the ST with the release of the first of the Mini Office ST modules. 208 rows by 255 columns, variable column widths and the option to load IBM, ASCII and MAC formats, from both Lotus, ASCII and DIF file formats, sort facility, text and replace facilities.

5–12 $89.95

An advanced spreadsheet with printing Lotus 1–2–3 functionality. Slight but the ST Lotus users can get their own print-outs in the 1-2-3 style. Enjoy LIN's own intuitive menu system. LDW Power is compatible with Lotus 1-2-3, IBM Power is compatible with Lotus 1-2-3 for professional print-outs. Mouse and keyboard input. LDW Power includes numerous graphic functions which produces stunning results. Atari Laser printer support is included as well as support for the resolution of your output device.

5–12 $153.00

MINI OFFICE ST – SPREADSHEET

Business crunching has never been easier on the Atari ST with the release of the first of the Mini Office ST modules. 208 rows by 255 columns, variable column widths and the option to load DIF, ASCII file formats, sort facility, text and replace facility.

5–12 $89.95

PERSONAL MONEY MANAGER

Use Personal Money Manager to manage your finances. Balance your cheque book. Print your own reports, keep track of expenses. Personal Money Manager uses display screens and written displays the information to help you guide through each stage of the program.

5–12 $90.00

POWERLEDGER

Professional home accounting system and financial register. Ledger has been designed to allow for up to 4000 transactions. A full range of reports with a total of 100 transactions a month. Included is a destination organiser, the ability to print a reconciliation statement and an easy budget set-up planner.

5–12 $108.00

POWERPLAN

Another outstanding Abacus product. A low-cost spreadsheet with support for over two million cells, its own disk calculator, its online notepad and integrated graphics. Powerplan allows the user to decide what it analyses and quickly reduce masses of data. into meaningful and easy reading text. A full complement of file read facility, expenses, budgets and statistics.

5–12 $120.00

POWERPLAN GRAPHIX

This program has been designed to integrate with Power. Press within a series of pop-up menus, Protext Office professional grade software package.

5–12 $153.00

ST–ORGANISER

A flexible and easy-to-use integrated package consisting of a word processor, database, diary, notepad, calculator, and to-do facilities. All are accessible from a single master menu. You can rapidly move from one application to another as you require. A powerful and flexible package for the professional desktop environment.

5–12 $90.00

CALAMUS PUBLISHER

The Calamus Publishers Pack has been designed as the easiest way to step into the world of desktop publishing. The pack includes all the Calamus software together with an extensive font collection. 1,036 32 Apple Computer-graphic fonts in a clean design, and also the Calamus Manual. The package is fully compatible with Calamus DTP and Calamus Outline Art, Calamus Typeface, Typographer, Colour Master Pack, the Calamus Condensor, C1 Matrix Bold, Condensed, C1 Matrix Bold Italic, Condensed Book graphic, and Calamus Tabular. There are an extensive range of fonts such as Greek, Hebrew, Cyrillic, Arabic, Japanese, and Roman. Graphical Interface, easy handling of screen designs for you in Print Curves. Calamus Font Editor includes a new module which adds the ability to create your own fonts. You can modify the existing fonts and Graphic Style package make DTP available on the ST.

5–12 $525.00

CALAMUS OUTLINE ART

A designer's tool for the creation of fonts, graphics, and company logos in a vector format. Working in the Post Editor is straightforward, and offers full compatibility with Calamus. You can generate effects like stretching, rotating, skewing, and creating shadows. You can create bitmap or vector graphics easily. You can import graphics for graphic packages.

5–12 $245.00

CALAMUS FONT EDITOR

Create your own greeting cards, signs, stationery, calendars and banners using your computer and printer. PrintMaster allows you to choose from over 120 graphics, and background patterns. It includes eight type fonts and a variety of borders with which to create your own unique designs.

Atari 8-Stocker $89.95

PRINTMASTER PLUS

Create your own greeting cards, signs, stationery, calendars and banners using your computer and printer. PrintMaster allows you to choose from over 120 graphics, and background patterns. It includes eight type fonts and a variety of borders and banners with which to create your own unique designs.

5–12 $89.95

PUBLISHING PARTNER

A powerful document processor with fonts and a good page layout. Offering full WYSIWYG display, two or more columns, style sheets, text wraparound, mail-merge, headers and footers, and a choice of fonts to go on, a great way to produce a wide range of professional documents such as newsletters, flyers, price lists, and reports.

5–12 $108.00

GENERAL SCIENCE

Create your own robotic control environment. Use this program and attach peripherals such as plastic, metal and balsa wood, simply add any number of batteries to control your motors and relays. LEGO Technic is designed for use in the classroom to introduce the concepts of design, technology, and control. Easy to use, it comes complete with all the components you require to complete the project.

5b-Stocker $108.00

SCRIPT

Script produces professional looking letters and documents with ease using its built-in fonts, graphics and text. Buttons, form letters and invoices. One or more pages, the inclusion of diagrams and graphics, mail-merge, and special formatting. Easy to use with pull-down menus and an easy-to-use interface.

5–12 $90.00

MODELLER

Modellers combine word processing, graphics, calculations, data management and page layout facilities all in one. Use it in the production of reports, diagrams of your classroom, floor and wall plans, numerous drawing objects and a title page. Also included is a paint facility with many graphic functions. Word Plan sets a new standard in affordable document processing for the Atari ST.

5b-Stocker $245.00

KEESPUBLISHER PROFESSIONAL

Takes into the youngest of writers fantasies from the desktop publishing power of your Atari ST. Sophisticated features as word wraparound, different font sets as well as graphics, simple editing tools and features to allow you to create text and graphic documents. Includes all the features that students would want.

5–12 $120.00

SCRIPT

Script produces professional looking letters and documents with ease using its built-in fonts, graphics and text. Buttons, form letters, invoices, italic, bold, underline, superscript or subscript, several fonts, mail-merge and special formatting.

5–12 $90.00

EASY DRAW EASY TOOLS

A series of five modules to improve the capabilities of Easy Draw.

5–12 $90.00

FIRST WORD PLUS

The preferred word processor for the average Atari user and includes many powerful features including its own spellchecker. First Word includes a WYSIWYG display of exactly what will appear on the printed page. First Word Plus includes a mail-merge facility, graphics into the document, text and mail-merge features, all in a standard document format.

5–12 $90.00

PAGESTREAM

PageStream allows you to write, edit, illustrate and produce documents. Documents are easy to store all your personal and professional needs. It is a synthesis of page layout and word processing with all the graphics being supported. Also mail merge, autoflow and image support.

5–12 $245.00

BIRD'S X SERIES

One of the pioneers in computerphysiology allow a child to learn about and computer science to be demonstrated in the classroom.

5–12 $90.00

GENESIS – THE 3D MOLECULAR MODELLER

Create virtually any known molecule using this online molecule modeller. Load and display entire solids, hydrocarbon and inorganic molecules. Graph molecular structures in real time. Molecular images and animation. Genesis is a unique program that places a new perspective on the study of chemistry.

5–12 $153.00

PLANETARIUM

A window to the universe. Gain access to an astronomy database containing information on the planets, comets, stars, and other objects of the universe. This program is an educational tool for the classroom and to teach the fundamentals of the solar system and beyond.

5–12 $153.00

GENESIS – MOLECULAR MODELLER

over one hundred 3D and 3D full colour graphics with dozens of animation sequences. The student can obtain information from the latest space missions and ground observatories as well as watching atoms particles collide in the Sun's core.

WEATHER SATELLITE RECEPTION
(New Orbitron)
A receiver, software, interface and an aerial.
8—

Basica and Central Australia. At each leg, they are required to plot their course, calculate the distance and take advantage of their supplies of fuel and spares.
8—12
$142.00

THE NAVIGATOR 2.0
The professional, automated flight planner. Whether you are a private pilot, navigator, commercial operator, amateur, armchair flyer or student. The Navigator will enable you to create your own accurate and detailed flight plans.
8—12
$142.00

MIGCODE ver. 2.00
An excellent alternative to the standard GEM desktop. Neodesk allows you to edit a background picture, install and/or tailor individual icons for each program, even launch an application from the desktop. Neodesk also includes many new file management features – the extended window support and the ability to move directories. Highly recommended, especially for creating your own custom desktop to the wheels characters.
8—12
$120.95

Syrtec
8—Teacher

TEMPUS 2 EDITOR
If you are after a text editor with an intuitive GEM interface and blinding speed, both cheap at Tempus. Tempus allows you to load up to four documents simultaneously, features a handy control button for fully paginated pages and the ability to toggle between three different font sizes.
8—12
$101.00

SIMULATION

STAR ROBOKIT
Create your own robotic control environment from the classroom. If you are using Lego Technics or other modelling materials such as plastic, metal and balsa wood, simply add any number of battery powered motors, electromagnets or its thermistors, and continuously monitor and control the wonderful world of robotics. With the ability to sense for sound, light, touch or any combination by positioning that features a zone and a powerful Logo-like language. Robokit has an application at the primary level through to the study of electronics and process control in the secondary and tertiary fields.
8—Teacher
$199.80

LEMONADE STALL
Have your students open their own business. Decisions must be made on borrowing money, purchasing raw materials, making marketing decisions. Full reports are presented after each day's trading, whilst random variations in the weather create many different scenarios.
6—18

PLANETARIUM
A window to the universe in your own classroom — Planetarium will effortlessly transport you across the galaxies within ever you choose to go. The accelerated clock allows you to observe astronomical events as they unfold — up to 10,000 years into the future.
8—18

UTILITIES

CORNER MAN
Cornerman has a close similarity to Side-kick, the Borland program that has taken the IBM world by storm. When you need to make a note or find a calculator, search for an address, Cornerman is simply a handy desk accessory. Cornerman will sort and collate your GEM applications.
8—12

G+ PLUS
Powerful and complete replacement for GDOS. Allows different displays to be installed in separate programs.
8—12
$39.95

HELPMATE
A series of desktop accessories that can be popped up inside other applications. Helpmate includes a calculator, notepad, calendar and more.
8—

LABEL MASTER ELITE
Satisfy that urge to have something other than plain labels. An easy-to-use GEM-based label maker and mailing list manager that allows you to create your own distinctive labels.
8—12

MACRO MOUSE
Save those keystrokes and mouse movement. Button clicks and keyboard presses, then play them back in real time. Up to 44 macros can be stored in support of their "hot" keys.
8—12

MIGHTY MAIL
Easy-to-use mail merge program that will work with any ST word processor.
8—12

MULTIDESK
This program will allow you to load and use as many desk accessories as you can store on your disk.
8—12

MIGCODE FIRST WORD
The preferred word processor for the majority of the Atari community has easily mastered the basic features of word processing. First Word Plus includes a WYSIWYG (What You See Is What You Get) display with a wide range of on-screen fonts, flexible spelling checker, integrated graphics, and footnote and tail end markers, as well as a mailmerge package.
8—12
$127.60

EXPUBLISHER PROFESSIONAL
Expublisher Professional lets even the youngest of writers harness the desktop publishing power of your Atari ST. Its powerful features in this completely rewritten version include word wrap, four different text styles on the screen, scalable outline fonts, automatic pagination, and a full range of graphics functions. Unlike children's desktop publishing programs on other computers, Expublisher Professional lets your child express his own creative impulses in both text and graphics. Your child will become a kidfriendly user interface to allow even the very young to make use of desktop publishing.
6—14
$68.00

MICROSOFT WRITE
Microsoft Write is by the professional word/leads looking for outstanding presentation. It has all the features you need in a word processor and more. With its multiple text styles, graphic and text tools using GDOS display and work with multicolumn layouts. Microsoft Write also features an automatic page numbering and table of contents feature, support for footnote and tail end markers, header and footer support, and more besides. Smart arrows beside the pull-down menus allow the user to switch from documents. A spell check is included and you can import ST graphics into documents.
8—Teacher
$179.95

WORD PROCESSING

Atari's entry level word processor. The program takes advantage of the GEM interface, with windows, icons and drop down menus. Suitable for word processing easy and fun.
8—12
$45.95

Atari computers — powerful features to make computing easy

Advance and reliable GEM operating system developed by Digital Research, one of the world's leading software houses.

Stored in ROM, the GEM operating system is perfectly integrated with the Atari ST series of computers, ready for instant use at switch-on, while the smooth-action mouse controller simplifies operation and increases productivity.

Powerful 16/32 bit 68000 central processor unit – the 'brain' of the ST computer – operates at a speed of 8 Megahertz.

Inside the 68000 'brain' of the ST, information is processed in chunks four times as large as older 8-bit computers, and at speeds eight times as fast. This combined with the more advanced design results in faster overall performance, making the Atari ST series truly versatile computers.

Large memory capacity ranging from 512 Kilobytes to 4 Megabytes.

Even the smallest memory size on an Atari ST series computer can store the equivalent of a 200 page book. The large 4 Megabyte total memory capacity allows you to use more sophisticated and easier-to-use programs, as well as providing adequate space for your own information.

The Atari DMA (Direct Memory Access) connector provides a very high speed link for information to flow into and out of the computer.

Unlike most other computers, the Atari ST computers are equipped with a standard connection direct into the computer's memory, enabling instant transfer of information to and from other equipment, such as the Atari MegaFile 30 hard disk drive, or the Atari Laser printer. This feature eliminates delays often noticed when using other computer systems with laser printers, and ensures that your Atari ST computer will always be able to take advantage of new technology, such as the new Atari CD-ROM player.

MIDI connectors for interfacing to electronic musical instruments are standard items on the Atari ST series computers.

The Atari ST computers were designed from the ground up to incorporate the MIDI (Musical Instrument Digital Interface) system is an integral part. Using the MIDI system to plug an Atari computer straight into a musical instrument opens up a whole new world of musical exploration, once again emphasising that the Atari ST is one of the world's most versatile computers.

Atari computers are available at leading specialist computer stores. If you are unable to locate an Atari Specialist in your area, please call Atari free on 0800 80 66 66 (NZ).

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Contributors:
Altair Campion, Louise Dingjan, Michael Taylor, Rick Gell, Martyn Gorman, Rita Fiskin, Les Pryor.

Layout and Design
Alistair Campion.
Les Pryor, Creative Impulse.
56 Chester Grove, Auckland.

Typesetting
42—44 Victoria Street North Sydney NSW 2060. Ph. 922 957 0280.

Final Art
Andrew Johnson, tel. (02) 445-265

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Teachers: ask your Authorised Atari Specialist about our Teacher Purchase Plan