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SOLAR TECHNOLOGIES

The logo for SOL-IT is displayed in a 3D, metallic font. The letters 'SOL' are orange and the letters 'IT' are grey. The 'O' in 'SOL' is replaced by a bright sun with rays, set against a background of a sunset or sunrise sky with clouds.

SOL-IT™ Solar IT Suite
Solar Powered Computing Solution

SOL-IT

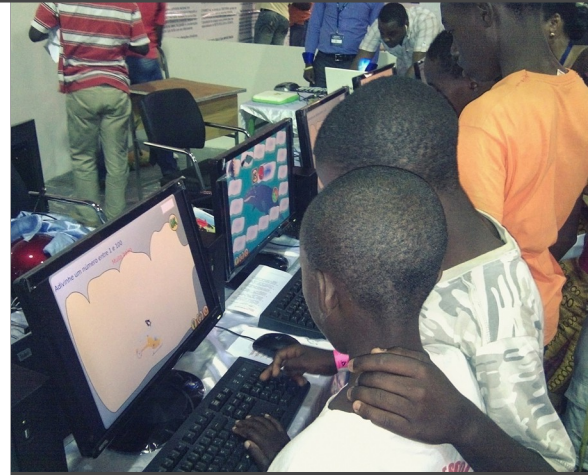
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Overview

SOL-IT™ is a versatile IT suite solution designed to provide low cost, low maintenance, reliable, solar powered computing to schools and communities in locations where there is limited, or no power infrastructure.

Able to be powered solely from the sun, each suite comprises of between 4 and 12 computers, a solar supply cabinet and solar panels. The system features plug and play wiring making it easy to install.

With five SOL-IT™ suites installed in Angola, schools and communities in remote areas are already gaining access to a wealth of educational resources and knowledge, revolutionising the scope for teaching and broadening the communities' horizons.



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System Features

Easy to transport

Housed in one 1600mm (L) x 1000mm (W) 1000mm (H) crate that can easily and safely be transported by sea or air and then moved on the ground by van/truck to any remote location.

Low Cost High Reliability

High quality components and advanced system integration allow up to 12 work stations to be powered from one small solar array. Top of the range batteries and advanced charge control ensures maximum efficiency and long battery life.

Low maintenance

Unlike its generator powered counterparts SOL-IT™ requires minimal unskilled maintenance greatly reducing long term cost.

Powered by the Sun

Captured power from the sun allows up to 7 hours a day, 6 days a week of operation without need for a generator or fuel.

Safe

SOL-IT™ negates the need for expensive unreliable mains inverters by its unique DC distribution system. This removes the danger of mains voltage power and minimises the risk of power being diverted for unintended uses.

Simple Day to Day Operation

Operation of the IT suite is as simple as pressing one button to power the system up and one to power the system down at the end of the day. Maintenance reminders prompt the the operator to perform simple maintenance tasks like cleaning of the fan filters and solar array panels to ensure optimum operation.

Out of the box solution

Comes with everything needed to deploy a fully featured IT suite within minutes.

Pre-wired plug and play cables allow installation by unskilled personnel.

Remote monitoring

Each IT suite can be remotely monitored with a self diagnostic system. In the unlikely event of breaker trip, fuse blow or component failure, the system has the ability report back to a local and/or remote management team. Other statistics such as system usage charge state can also be viewed remotely.

Mains top-up (Option)

The optional protected mains top up system allows automatic top up of the internal batteries from either a generator or mains supply. This feature can be used to extend the hours of usage of the IT suite or charge up a mobile system. Charge rate throttling helps power management.

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Solar Supply Cabinet

The solar supply cabinet is a floor standing self contained unit that houses the batteries, charging electronics, power distribution, monitoring system, networking hardware and patch panel for the IT suite.

The state of the art charge and monitoring system keeps track of the battery charge level and extracts, as efficiently as possible, the electrical energy from the PV cells in all conditions. The monitoring system oversees all aspects of the system reporting any errors or abnormalities. It keeps track of usage statistics presenting these locally or back to a remote management team. A cabinet mounted touch panel allows the centre operator to quickly view system performance and status with simple bar graphs showing power consumption, power collection and remaining run time. Space is available in the cabinet for an optional server.



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PC Work Stations

Each work station is supplied with a 19" LED monitor, PC base unit, mouse, multimedia speakers and keyboard in the required native language. The work stations have been specifically designed to work from the limited energy supply whilst providing a PC with enough processing power to do all common computing tasks.

Each pair of PCs are supplied with power and networking via a single pre-wired umbilical cable from the solar supply cabinet.



PCs

The PCs are customised versions of the Sharp & Tappin PicoPC™-M low energy, green PC range. Built using rugged and industrial components designed to survive harsh temperatures and dusty environments. Sharp and Tappin's green PC technology minimises the use of plastics and features cases made of 100% recyclable aluminium reducing the long term environmental impact from the outset.

Monitors

Carefully selected to find the best balance of power consumption, size, resolution and brightness. We use monitors with EPEAT environmental rating, then custom modify them to work from the solar supply.

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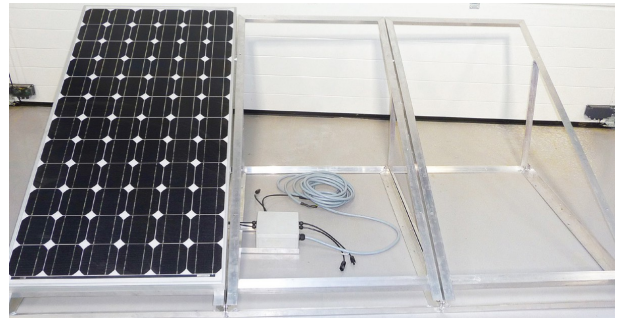
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Solar Array

A solar array of between 1 and 3 high quality PV panels accompany each IT suite. Provided with adjustable angle array frames these can easily be mounted on a roof, sited on a custom stand, ground mounted or even mounted on a vehicle. We use only the highest quality panels that feature a 25 year performance warranty. The solar array connects back to the solar supply cabinet with an easy to install plug-in cable.



Software

The PC work stations can be provided as a hardware only solution or as a fully featured deployment with an open source operating system based GNU Linux, customised for education.

Operating systems are provided on a customised project basis supported by us and our project partners. Other software options are also available on a project by project basis.



Networking

The SOL-IT™ solar powered IT suite comes fully networked with a open source router ready to connect to a 3G, satellite, cable or ADSL internet connection hardware. Internet access hardware 3G, satellite *etc.* can be included on a project by project basis. Wireless networking is also available from the suites router.



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Availability / Pricing

SOL-IT™ solar powered IT suite solution can be purchased as a standard system with a 8 – 10 week lead time, or used as template for a customised solution. Please contact us for more information. All aspects of the system have been carefully designed, developed and manufactured at our facility in Devon, England along with support from our partner Solarsis on the ground in Angola

Please contact your local distributor, or Sharp and Tappin directly if there is no representation in your area, to discuss your project requirements, pricing and availability.

Standard System

A 10 station solar IT suite consists of:

- 10x PC base stations – with customised GNU Linux operating system
- 10x 19" LED monitors
- 10x Keyboard in native language
- 10x Optical mice
- 10x Multimedia speakers
- 5x 10 metre distribution cables (2 PCs per cable)
- 1x Solar array – Standard sized array
- 1x Solar supply cabinet – Standard Capacity battery bank
- Open source router and full networking

Extras

- Extra capacity battery bank
- Oversized solar array
- Printer/s
- Cable management hardware
- LED projector
- Lighting for the suite

Sharp & Tappin

Sharp and Tappin Technology is a mechanical, electronic and software engineering company based in Devon, England who provide innovative technology solutions to wide variety of markets.

The Sharp and Tappin solar technology division have developed a range of advanced off grid solar technologies creating rugged, low maintenance, easy to install, off grid solar power supply solutions for a wide range of applications.

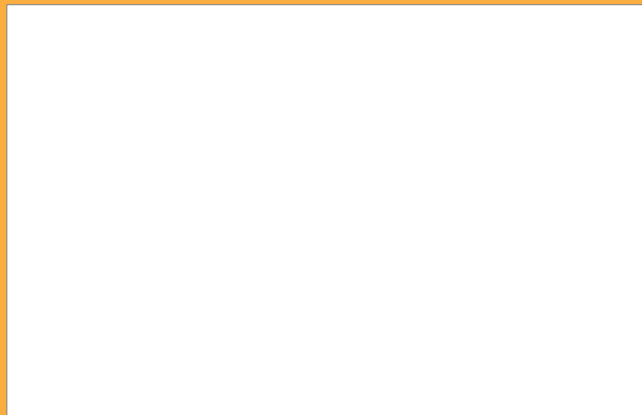
Projects include:

- Off grid solar power security lighting system for a school
- SOL-IT™ - solar powered IT suite solution
- Solar desk – solar power single desktop PC solution

Possible applications:

- Water pumping
- Security lighting
- Lighting
- Refrigeration

Agent / Distributor



Sharp & Tappin Technology LTD
1 Tamar Technology Park
River Tamar Way
Holsworthy Industrial Estate
Holsworthy
Devon
EX22 6HL
T: +44 1409 253534
solit@sharpandtappin.com

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