Laser-Scan

L.I.T.E.S.

Laser-Scan Interactive Editing Station

Benefits for the user

Cartographically oriented commands
L.I.T.E.S. is designed specifically for cartography and is not just another CAD system.

Detailed graphic display
L.I.T.E.S. has various display options including Laser-Scan's HRD-1 5,000 line display, standard storage tube CRTs or colour raster displays.

Separate VDU for system messages
'Help' facilities enable the operator to interrogate the system for information.

Clear highlighting of the 'Features in Hand'
L.I.T.E.S. versions on raster displays blink the entire feature and on storage displays enhanced refresh indicates the feature with first and last point labels.

Very fast access to large data sets.
L.I.T.E.S. 'find' command operates very fast on the largest datasets so cartographers' time is not wasted on long searches.

Easy to use comand menu.
Options include a small menu pad and cursor or the same menu on a larger digitising table.

Simple cursor tracking
L.I.T.E.S. screen cursor is tracked with either the menu cursor or the main digitising table cursor.

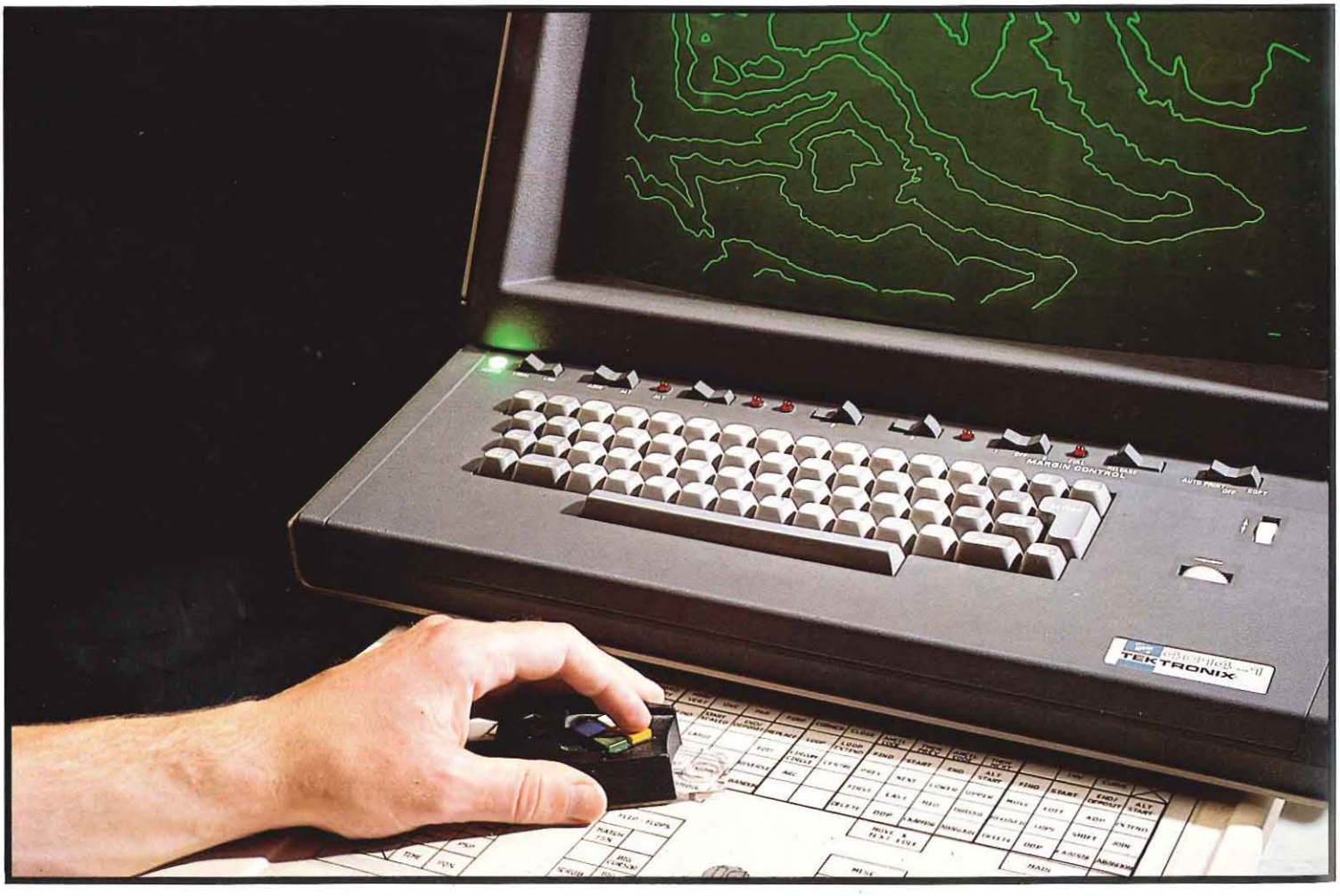
Cursor button commands
Common commands are programmed into 4, 8 or 16 button cursors for ease of use.

Adjustable screen positions
Custom-built L.I.T.E.S. work stations have sliding and rotating screen mounts to facilitate ergonomic operation.

Adjustable digitising table
The high-accuracy digitising table can be mounted in a fixed or tilted position, backlit or opaque.

Powerful IFF databases structure
Laser-Scan's IFF (Internal Feature Format) database files hold data in user defined area units with many layers and/or feature codes. Graphical features can have any number of attributes.

For further details ask for the Cartographic Editor User Guide and Reference Manual (Ref. No. 1S).



Laser-Scan

L.I.T.E.S.

Laser-Scan Interactive Editing Station

Benefits for the production manager

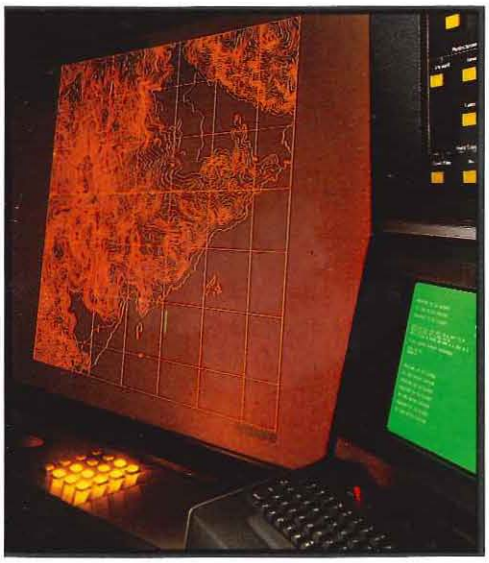
User-orientated systems are built from modular software
The applications supported include photogrammetric, urban and utility base mapping, database creation and hydrographic charting.

High-accuracy input of new or updated information
Optional high-accuracy digitising tables of various sizes can be used for input menu selection of feature codes and layers with real time transformation of input data to map space co-ordinates.

Flexible positioning of work stations
L.I.T.E.S. work stations can be positioned on serial lines at any distance from the host computer.

Reduction of host computer loading
Microprocessor in work station reduces host computer load dramatically.

Worldwide support
Full worldwide support can be provided for hardware and software. Telephone trouble shooting can be supplied, if required. Our experience in supporting our customers is evident from the installation of Laser-Scan computer graphic systems in 16 countries.



Options

HRD-1
High-resolution display/plotter. Unique 3500 × 5000 line resolution on 0.7 × 1.0 m flat screen. Black lines on orange background with blue refresh image. The HRD-1 has a very fast, high-accuracy microfiche laser plotter.

High-resolution storage tube displays.

Colour or black and white raster displays.

High accuracy digitising table.

Fast, hard copy of screen image.

Multicolour, pen plotter output

4, 8 or 16 programmable button cursors.

Multiple on-line digitising tables with local prompting.

35 mm microfilm laser plotter output.

Installations for production

Many installations with several storage tubes or colour display options are working today. These include users at the:

UK Ordnance Survey
Work stations for flowline editing and updating of large scale topographic maps.

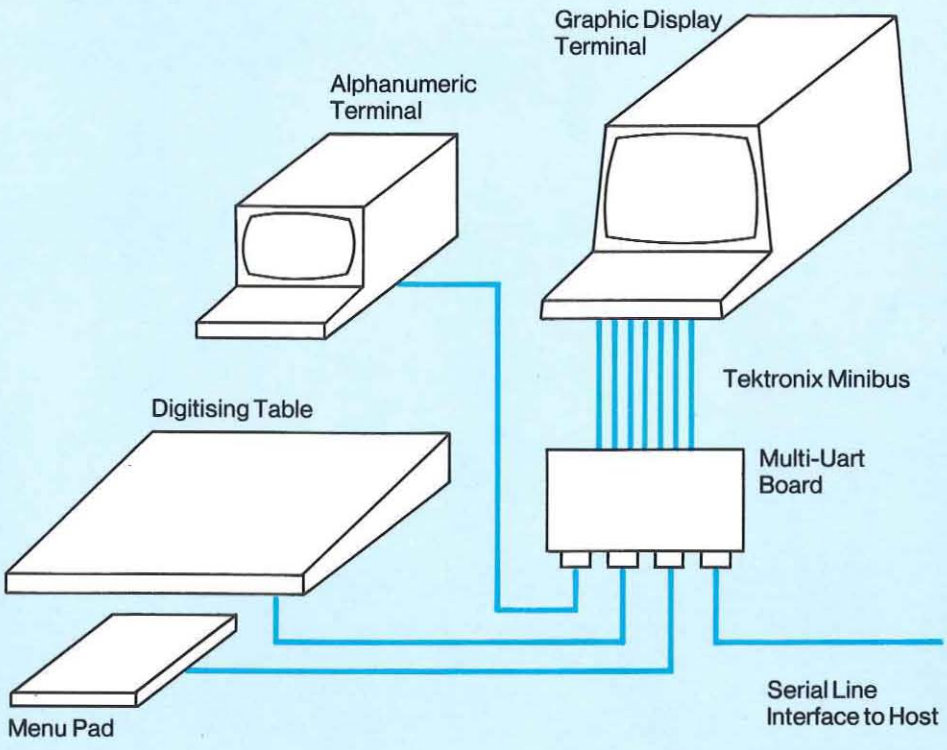
UK Mapping, Charting Establishment
Work stations used for map production or database editing.

UK Hydrographic Department
Work stations used for digital chart production.

Laser-Scan Bureau Services
Work stations used for all types of maps, charts and other graphics.

Similar cartographic software is in use at Laser-Scan's installations in Canada, Sweden, Holland and the UK.

Typical System Configuration



Data

Laser-Scan's IFF Database holds spatial data in a flexible, layered structure.

For L.I.T.E.S. operations the data is rapidly restructured to a special, fast access, work space. Lines, symbols and texts of various types are supported and the screen, or plotter, representation of features is determined by a user-defined legenda file which can be set for different maps or charts.

L.I.T.E.S. utilises a copy of the database and the original version of a mapped area is not deleted unless the operator, or manager, specifically request it. All current edits are saved in a dump file at frequent intervals during the operation to guard against any hardware or communications failure. Windowing of data to larger scales is very fast, though on the Laser-Scan large screen HRD-1 display it is rarely necessary for the majority of maps.

Editing functions

Feature creation
By eye on screen or accurately from table with automatic co-ordinate registration.

Feature deletion
Whole or part.

Feature modification

Feature matching or merging

Feature alignment
(eg 'snapping' or alignment of test and symbols).

Curve interpolation
(various algorithms).

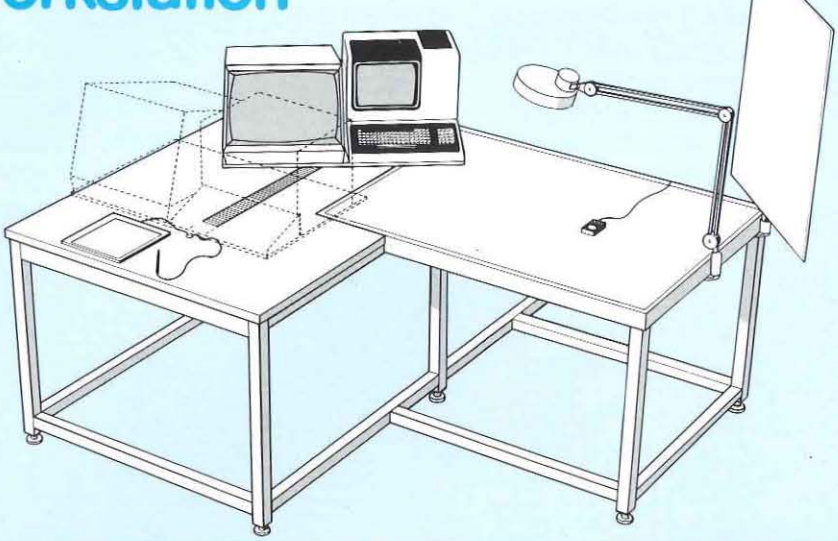
Text feature editing

Squaring of buildings etc

All functions are based on the 'Features in Hand' concept and audible signals indicate success or failure of desired operation.

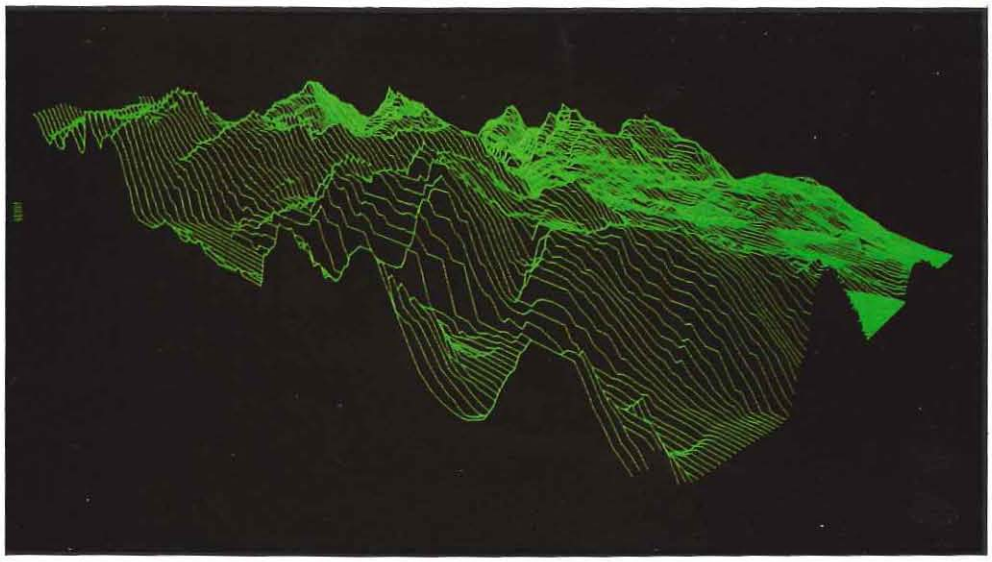
Full 'help' facilities are available at all times.

Workstation



Menu

HCW	SUB	WINDOW	HARD COPY	HOR/ VERT	UNC	PAR	PERP	CORNER	CLOSE	CHANGE ANCIL CODE	EDIT THEN PREV	EDIT ANCIL CODE	EDIT THEN NEXT		INV	CURVE	
FC	FSN	LAYER	SIZE	FIND	START SCALED	END/ DEPOSIT	REPLACE	LOOP	LOOP EXTEND	FIND	START	END	ALT START	FIND	START	END/ DEPOSIT	ALT START
MAP CO-ORDS	SCREEN CO-ORDS	VERTEX	ALL	SMALL	LARGE		EDIT	CIRCUM-CIRCLE	CENTRE	PREV	NEXT	LOWER	UPPER	MOVE	EDIT	ADP	EXTEND
PLA	PSE	PCC	PTX	ROTATE	ALIGN	HOR	REVERSE	ARC		FIRST	LAST	MID	BRIDGE	RECOVER	COPY	SHIFT	JOIN
REF	LIST	LENGTH	ABANDON	DELETE	TEXT	EXAMINE	ABANDON			DELETE	DDP	EXAMINE	ABANDON	DELETE	DDP	EXAMINE	ABANDON
	EXAMINE				TEXT & SYMBOL						MOVE & TEXT EDIT				MAIN		
	PRINT				FLIP-FLOPS						MISC				MISC		
	PCT	PDC			MATCH FSN										TIE	PRO	
	PCC	PWB				BIG CURSOR					MEND MANUAL	MEND AUTO			RAIL		
	PRF	PSP			SCRUB	BIG FIND					SQUARE	REVERSE					
	TIME	PON			ARM	REF BLINK											



Laser-Scan

L.I.T.E.S.

Laser-Scan Interactive Editing Station

Introduction

Laser-Scan offer a complete range of automated cartographic hardware and software systems for either digitising, editing and plotting of maps and plans or for cartographic databases.

L.I.T.E.S. offer cartographers, draughtsmen, engineers and architects very powerful software for accessing, viewing, interrogating and editing map data and associated attributes. L.I.T.E.S. software can be implemented on a variety of computer systems with a wide range of work stations configurations.

1982

THE QUEEN'S AWARD FOR
TECHNOLOGICAL ACHIEVEMENT 1982

Laser-Scan was founded in 1969 by researchers from the famous Cavendish Laboratory of Cambridge University, England, to produce and market high technology equipment for high energy physics applications.

The skills and technology incorporated in the original equipment have been enlarged and exploited in a variety of systems, including film analysers, displays, semi-automatic digitisers and both large format and microfilm plotters. Common to all is the high resolution and speed which stem from the company's basic computer-controlled laser deflection technology, and the skilful harnessing of advanced techniques in optics, mechanics, electronics and computer science to meet complex requirements.

These products have found markets worldwide with many high energy physics groups, computer graphics users, research and design departments and cartographic production organisations. The expanding requirements of products and markets have meant a progressive building up of internal and external services at Laser-Scan. These services enable the company to undertake research and development contracts of either an open or a classified nature. Laser-Scan also operate a plotter and digitiser bureau service at very competitive rates.

The company is based in a modern factory on the Cambridge Science Park which houses design, engineering and manufacturing, research and development, sales and service, software systems and administration.

Most of the staff are professionally and academically qualified. A broad range of disciplines and experience within Laser-Scan means that the company is extremely competent at systems analysis and problem solving. It is well supported by modern in-house computer systems, specialised test and inspection equipment, experimental and production workshop areas and photographic and optical laboratories.

Laser-Scan's close connections with Cambridge University ensure the availability of considerable resources and expertise on a consultative basis. The combination of these assets gives Laser-Scan a unique advantage in the high technology of its product and market area.

Laser-Scan

Laser-Scan Laboratories Limited
Cambridge Science Park, Milton Road
Cambridge CB4 4BH, England
Telephone Cambridge (0223) 69872
Telex 817346

Omega Design Print by Buralls of Wisbech