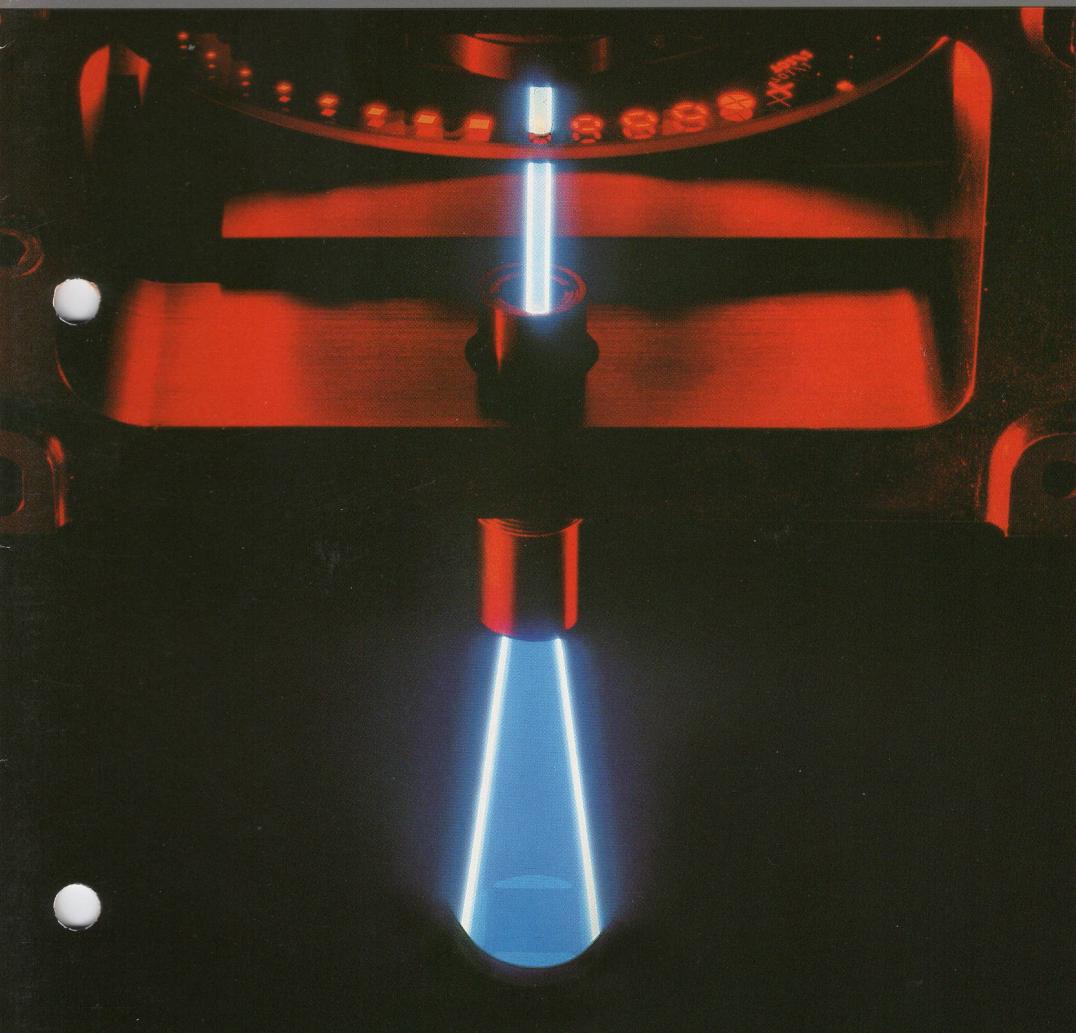


EMMA 210 – compact photoplotting

Marconi



EMMA
210

■ EMMA 210 – compact photoplotting ■

High-quality photoplotting. A vital part of your production process. How does the smaller unit — whether company or department — achieve that high quality?

Without a doubt, buying a photoplotter is the answer. You have full control over the process, and you avoid the delays that can occur when using a photoplotting bureau: the post, the bureau's work-load or work returned for errors to be corrected.

Until recently, photoplotters have



been costly machines, requiring a special dark room.

■ The breakthrough ■

But now Marconi Instruments has achieved the breakthrough. Over 15 years' experience in manufacturing and marketing the renowned EMMA range of photoplotters has enabled us to produce the ideal photoplotter for you — EMMA 210. A cost-effective, tabletop unit with innovative and unique design features, EMMA 210 is able to handle film sizes up to and including 300 × 400 mm (12 × 16 in).

EMMA 210 is the photoplotter you can afford. If you operate at the rate of 2/3 plots per day, you'll recover your capital expenditure in one year. And you'll save time too. Within one hour of finishing a typical design, you'll have a complete photoplot.

Nor does EMMA 210 have to be located in a special dark room. We provide optional additional equipment which enables you to locate and operate it wherever is most convenient.

■ A wealth of features ■

EMMA 210 offers many superb features, including:

- Unique linear motor X-Y co-ordinate drives — no brushes to wear out, few moving parts — no maintenance is necessary.
- Superb positioning controls — feedback via high-resolution linear glass grating gives precise positioning.
- High traverse speed — 150 mm/sec, gives high throughput.
- Acceptance of EMMA or other standard inputs for PCB design; data formats for electro-mechanical, mechanical and/or graphic design, are also made available as options.
- Precision chrome-on-glass slide for accurate image generation, including a wide range of circles and squares, plus user-definable images.
- Built-in light-proof covers for daylight operation.

And there's more:

■ Simple-to-use controls ■

You need very little training to operate EMMA 210. We've provided a single, simple-to-use control panel with LCD readout. It contains everything you need to operate the photoplotter, including setting-up controls for the input and plotting parameters. And, of course, we supply a comprehensive user manual to guide you every step of the way.

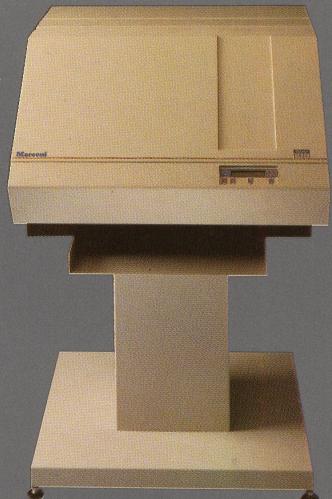
We've made sure that the light levels for your films are accurately controlled. Pre-sets for three film types — Agfa, Du Pont and Kodak — are selectable. What could be simpler?

And — another benefit — all parameters, once set, are stored for instant recall or modification.

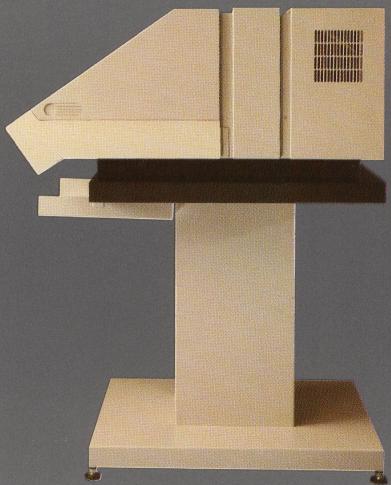
The input interface is serial, via the RS 232 port, using Xon-Xoff or hardware handshake protocols. This too is control-panel selectable and can be stored for future use.



1.



3.



4.



SETUP: OPERATING MODE
EMULATION EMMA

SETUP: PHOTOGRAPHIC
FILM TYPE HDU3P

PLOTTING QC71TES MET
R001 B011 I00 0:00 E

1. EMMA 210 photoplotter with optional compact mounting stand.

2. LCD display control panel with some typical set-up operating functions.

3/4. Front and side views of plotter showing the compact ergonomic design with functional controls.
The optional stand depicts a film accessory tray.

■ Design flexibility ■

Emma 210 is equipped as standard with an excellent selection of images: a precision slide of 50 masks — metric or inches — plus up to 50 factory-set firmware macros. In addition, up to 260 user-definable macros are available for items, such as surface-mounted footprints, which are specific to your designs.

■ A complete package for total support ■

We don't stop short at providing the photoplotter. To give you the added advantage of a system fully under your control, with all the resulting benefits in security, there's an excellent range of options available, including:

- easily erected dark-room curtain booth — position EMMA 210 to suit your location.
- a choice of automatic, simple-to-use film processors — Agfa Rapiline 66 or Kodak Kodamatic 65. Either, combined with EMMA 210, makes you fully self-sufficient.
- a daylight adapter for the film processor — so you can use it in daylight too.
- developing kit — all the equipment you need for dish-processing.
- a compact mounting stand.

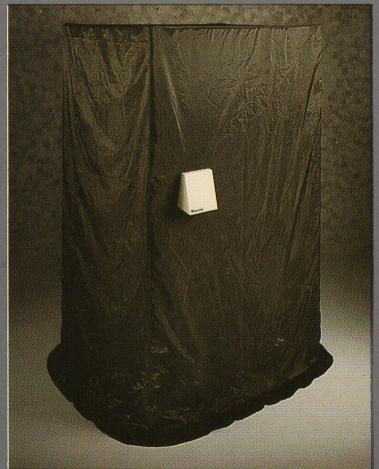


1.



2.

1. Dish processing developing kit.
2. Floppy disk and magnetic tape units for advanced input media facilities.
3. Darkroom curtain booth complete with safelight and ventilation kit.



3.

■ Expandable and upgradeable ■

EMMA 210 can be upgraded to accept data from a variety of media and formats. To achieve this, we offer the following options:

- Our floppy disk converter (FDC), enabling data to be accepted from 8", 5½", 3½" or 3" floppy disks.
- Our magnetic tape unit (MTU), enabling data to be accepted from 800/1600/3200 bpi magnetic tape on 7-10½" reels.
- Our buffer unit, up to 1 Mbyte, fitted in-line, will expand your system to store files, freeing your workstation for the next task.

Of course, your EMMA 210 photoplotter can also be connected online to a computer-aided design system, integrating the entire process.

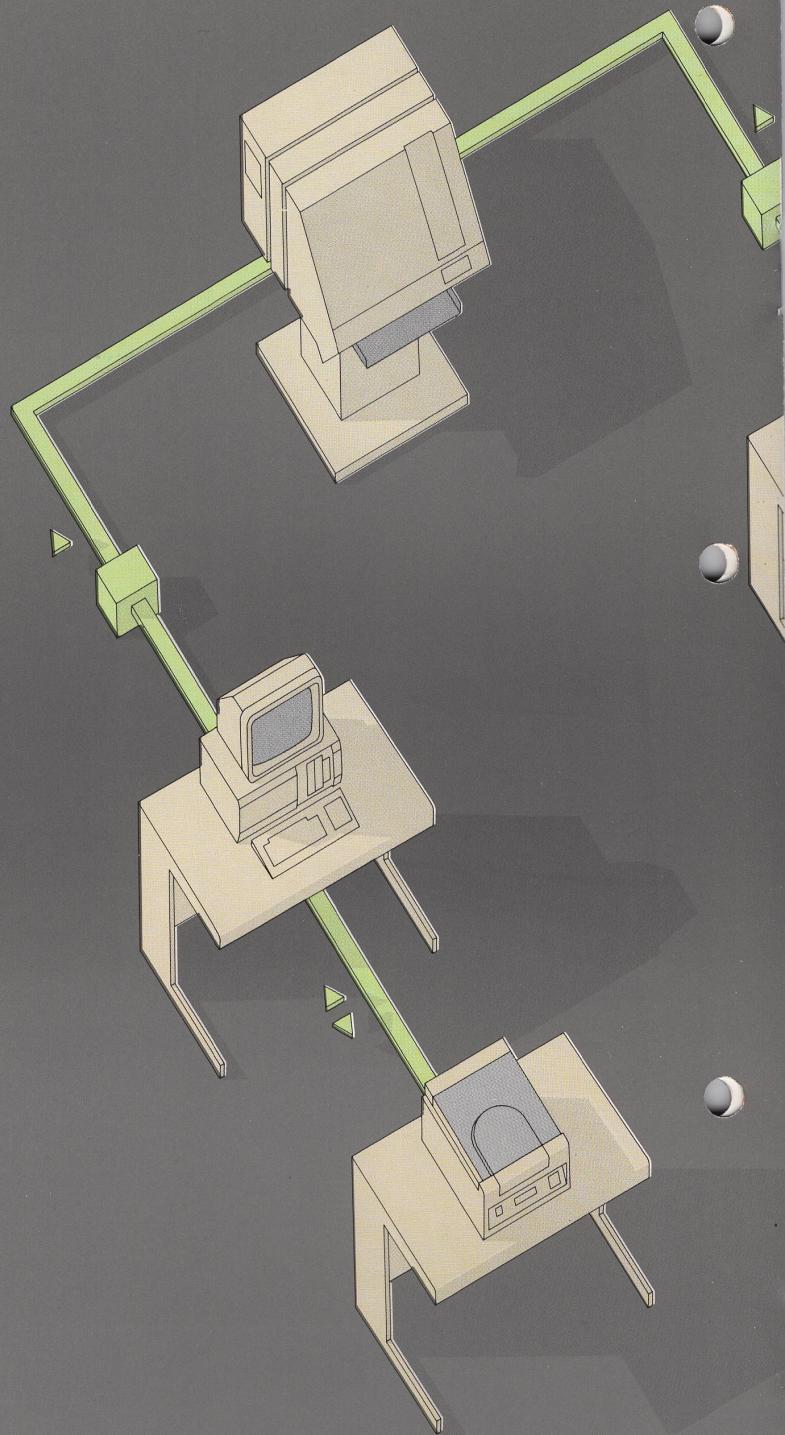
■ Quick, easy installation ■

Installation of EMMA 210 is really straightforward. It is supplied ready-assembled, and the user manual contains full information on setting-up. Just 15 minutes and you're ready for operation.

■ Minimal maintenance ■

We've made sure that servicing of the EMMA 210 is minimal. The drives are maintenance-free; and very little preventative maintenance to other parts is required. In-built diagnostics simplify fault-finding and minimize any downtime, enabling us to offer really cost-effective maintenance contracts. The purchase price includes the cost of the initial annual service visit.

So if you're seeking to reduce design costs, save time and keep full control of all your processing — invest in the latest model in the MIDATA range — EMMA 210.



■ The MIDATA range — for electronic factory automation ■

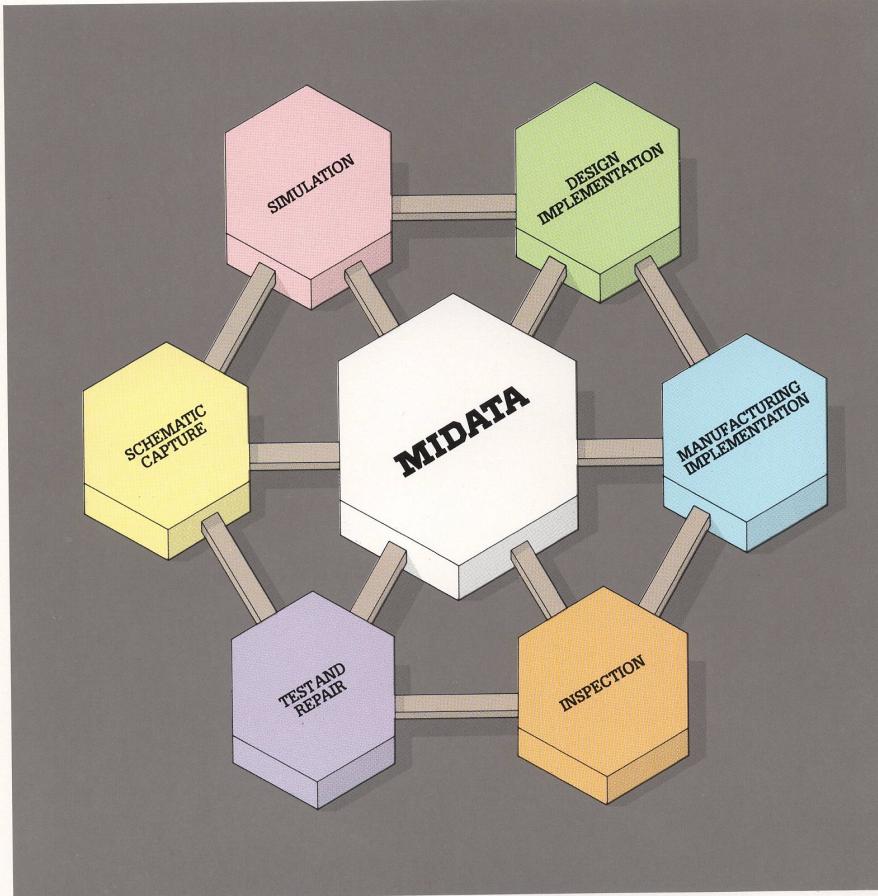
EMMA 210 is one of a wide range of products from Marconi Instruments able to operate within MIDATA — Marconi Integrated Design and Test Automation.

To give your company a head start towards Computer-Integrated Manufacture (CIM), MIDATA offers an

The complete MIDATA range covers the software and hardware for:

- Schematic capture
- Simulation
- Design implementation
- Manufacturing implementation
- Inspection
- Test and repair.

Further details about other products in the MIDATA range are available from the offices whose addresses are shown on the back cover.



integrating family of systems, from which you configure your own open system. An open system architecture, based on Local or Wide Area Networks, which enables you to add to it in stages, AND to include in it your existing equipment.

■ RS-232C

■ Technical Specification ■

Performance:

Static accuracy	— ± 0.025 mm (0.001 in)
Plot repeatability	— ± 0.010 mm (0.0004 in)
Addressable resolution	— 0.005 mm (0.0002 in)
Plot speed	— 150 mm/sec (max.)
Film area	— 305 × 400 mm (12 × 16 in)
Max. plot size	— 295 × 390 mm (11.6 × 15.35 in)

Images:

Precision chrome-on-glass slide with 50 masks (including circles and squares), inch or metric versions. 50 factory-set firmware macros. Up to 260 user-definable macros. Line draw at any angle, full circular interpolation.

Input interface:

Serial RS232C compatible, 110-9600 baud. Xon-Xoff protocol or hardware handshake. Inch or metric units. EMMA and Gerber formats.

Control panel:

5 keys, plus 2-line by 20-character LCD display.

Power:

115/220/240V a.c., ± 10%, 50/60Hz, 350VA max.

Environment:

Operating temperature, +10°C to +35°C (accuracy figures valid at 20°C). Relative humidity, 20-80% (excluding photographic film limitations). Normal office lighting while plotting (not direct sunlight).

Dimensions:

750 mm wide × 890 mm deep × 415 mm high (29.5 × 35 × 16 in).

Weight:

135 kg (297 lb), unpacked.

Film types:

LPF7, PCP7, HDU 3P.
(Integral vacuum hold-down).

Further information on the MIDATA family is available from:

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