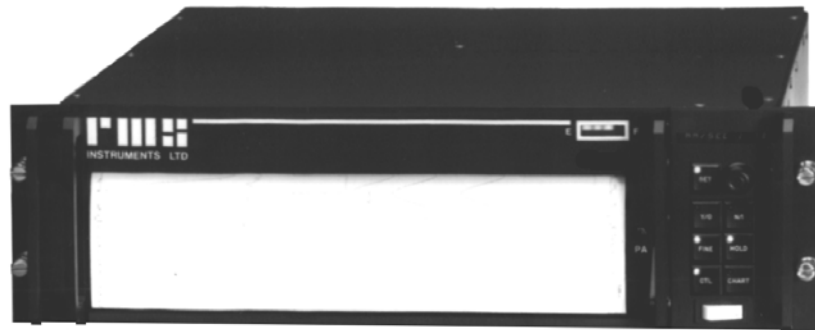# RMS INSTRUMENTS
Data Recording Systems

GR33AP

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GRAPHIC RECORDER

- *DIGITAL INPUT VERSION OF THE GR33A GRAPHIC RECORDER*

- *IDEAL FOR INSTALLATIONS IN A CONFINED SPACE, REQUIRING ONLY 368 MM (14.5 INCHES) OF DEPTH*

THE MODEL GR33AP GRAPHIC RECORDER IS AN INNOVATIVE, FULLY PROGRAMMABLE INSTRUMENT FOR SCIENTIFIC, INDUSTRIAL AND COMMERCIAL APPLICATIONS. THIS MODEL IS DESIGNED TO OPERATE UNDER HOST COMPUTER CONTROL, WHILE RETAINING THE FRONT PANEL CONTROLS TO THE RECORDER FEATURES AND FUNCTIONS.

COMPUTER CONTROL

When under computer control, the user has complete access to all of the GR33AP's Chart Recorder, Alphanumeric, and Raster Graphics capabilities. Using or moving from one mode to another is simply a matter of implementing the command set provided. All of the built-in features of the GR33A are retained with the exception of the analog input.

In the **CHART RECORDER** mode, traces are produced from digital data received from a computer via the serial or parallel ports (both standard). The host computer can define up to 32 traces, which are printed simultaneously with one of the 22 selectable grids, eliminating any drift between waveforms and grid. Messages can be simultaneously printed with the traces. The **ALPHANUMERIC** mode allows text to be printed as a line printer with various formats being software selectable. The **RASTER GRAPHICS** mode allows the user to access the 1240 individual printing elements to produce images.

REMOTE CONTROL

The recorder may be totally controlled remotely from the host computer, and in addition, the host can disable the operator control panel.

LOW MAINTENANCE

This **extremely reliable** and **very low maintenance** recorder is based on the proven thermal array printing technology which produces a precise graphic record on the large format 321 mm (12.625 inch) wide chart. The only moving parts are the chart stepping motor, the drive roller, and the paper supply and take-up spools.

PC COMPATIBLE SOFTWARE

The PC33 Interface and Control Software is available for those working in the PC environment. One of the many features of the software is a library of routines for control functions as well as routines for producing traces on the recorder from digital data.

Refer to the GR33A, PC33 and DISP33 descriptive brochures for additional information.

GR33AP DIGITAL GRAPHIC RECORDER
SPECIFICATIONS

RECORD

SIZE:
315 mm (12.4 in) record on 321 mm (12.625 in.) paper, 32 channel with channel identification.

RESOLUTION:
100 x 100 and 100 x 200 dots per inch.

RECORDING METHOD:
Thermal array technology consisting of 1240 individual .008 in. (.2 mm) printing elements on .01 in. (approx. .254 mm) centers.

PAPER TRANSPORT

PAPER SPEED:
800 speeds (programmable inches/sec. or mm/sec) up to .320 inches per second (ips), in .001 ips increments or 8.00 mm/sec in 0.01 mm/sec increments. Paper speed may also be determined by a host computer.

DRIVE MECHANISM:
Crystal controlled DC stepping motor, with an internal take-up spool.

PAPER ADVANCE:
Paper may be advanced at 1 ips (25.4 mm/sec.) without printing.

PAPER VIEWING AREA:
84 mm (3.3 in.) when using internal take-up spool 134.6 mm (5.3 in.) using RMS3307 Writing Platen.

PAPER LEVEL:
Solid state level sensor and 4-segment LED bargraph paper level indicator.

SERIAL DIGITAL INTERFACE

SIGNALS:
Two RS-232C ports, one of which is configurable for 20 mA. current loop. 8 data bits with programmable parity, RTS (request to send) and CTS (clear to send) handshake lines.

DATA RATE:
Programmable, 300 bps to 19.2 Kbps.

CONNECTORS:
2 x DE-9P (9 pin) located on the rear panel.

PARALLEL DIGITAL INTERFACE

SIGNALS:
8 input lines, 8 output lines, active low or high input strobe, active low output strobe, active low and high Busy outputs, all TTL compatible.

CONNECTOR:
DB-25P (25 pin) located on the rear panel.

INSTALLATION

SIZE:
Rack mountable, 482.6 x 133.4 mm (19.0 x 5.25 in.) overall depth 414.5 mm (16.3 in.), extending 368 mm (14.5 in.) behind mounting surface.

WEIGHT:
10 kg (22 pounds) excluding options and paper.

POWER REQUIREMENTS:
23-32 volts DC input, less than 100 Watts typical.

TEMPERATURE:
Operating range 0° C to +50° C. Extreme operating condition -20° C to +55° C
Storage -40° C to +60° C (excluding paper)

HUMIDITY:
5% - 95% non-condensing

ALTITUDE:
to 50,000 feet (15,228 m)

MTBF:
per MIL-HDBK-217C: 8900 Hrs
Environment: Airborne Transport Inhabited
Ambient Temperature: +35° C, temperature rise 5° C

EMI:
Per MIL-STD-461A

VIBRATION:
10 cycles of 6 hours each, each cycle consists of 4 hours at +40° C with 10 minutes of vibration at 1 g, 60 Hz every hour, and one hour cold cycle down to 0° C.

BURN-IN TESTING:
12 hours at 0° to 50° C

OPTIONAL ACCESSORIES:

RECORDING PAPER:
Plain thermal sensitive roll paper 12.625in. (321 mm) wide x 200 ft. (60 m) long:

RMS2030-2 - black image

RMS2030-3 - black image, perforated every 8.5 in. (216 mm)

RMS3307 WRITING PLATEN

PC33 SOFTWARE for PC based control/interface

DISP33 SOFTWARE for real-time Chart Recorder Graphics to PC screen.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE