



**AMPEX** **AG-20**





## AG-20

This unique professional portable recorder combines outstanding quality with compactness.

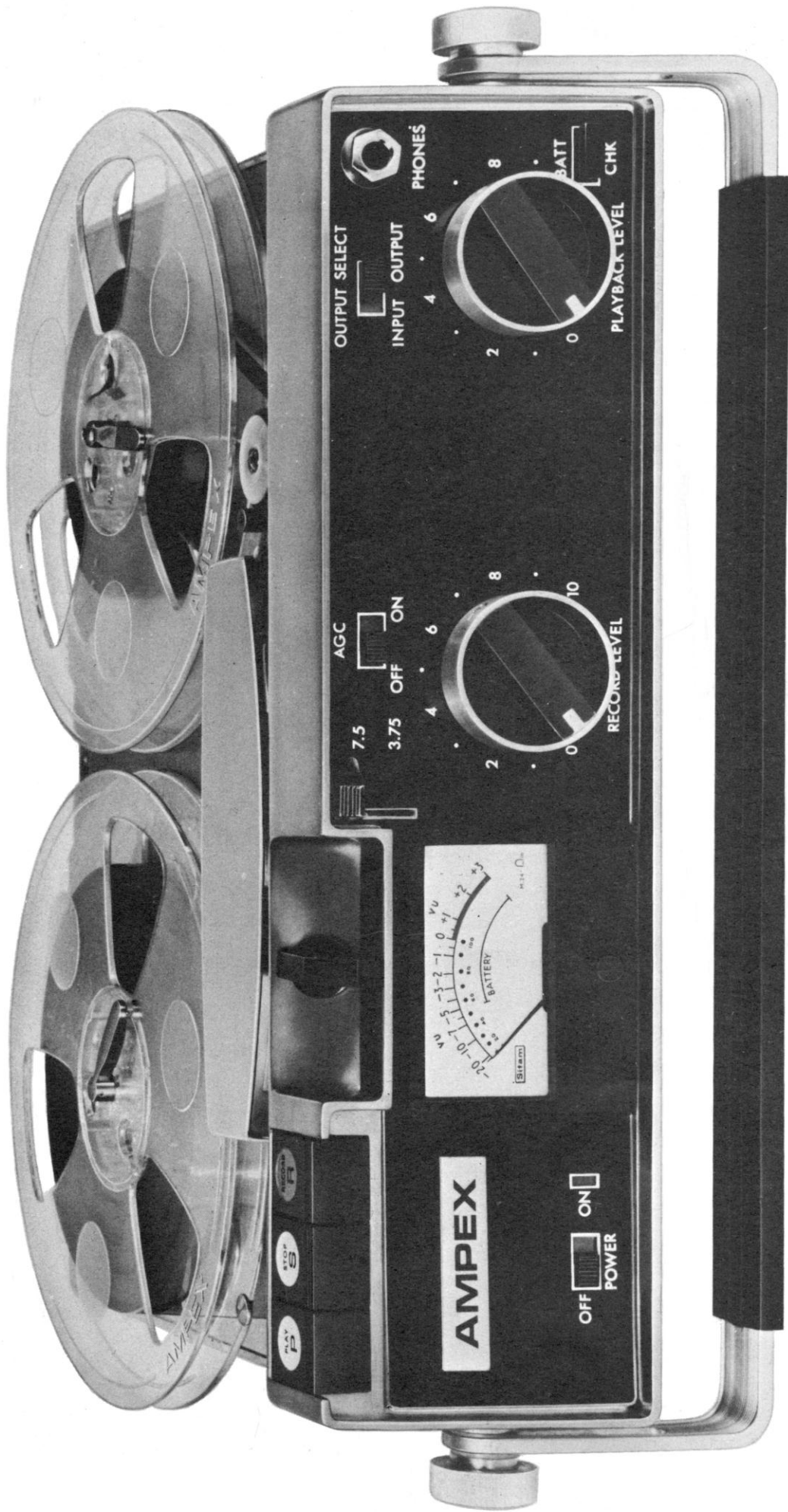
Its quality of reproduction leaves other portables standing. Designed for tough field usage, the AG-20 goes anywhere, does anything with fantastic ease of operation.

All components have been selected to provide maximum capa-

bilities through the widest environmental range. Silicon transistors and tantalum capacitors throughout.

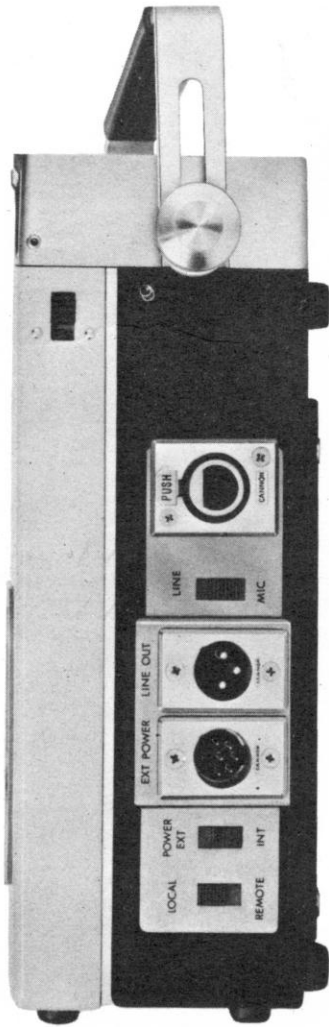
Applications for the AG-20 are numberless. It's as at home in a laboratory as recording an interview.

But although the AG-20 sets a new standard in professional portables, it costs less than recorders of comparative quality. And of course it's smaller. Far smaller.



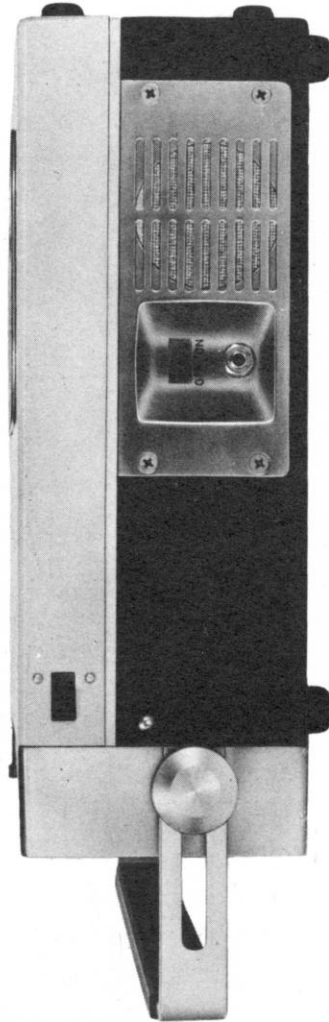
**Front View: (Above)**

- Function controls
- Fast wind/rewind control
- Power on/off switch and indicator
- Professional standard VU meter
- Speed change control
- Automatic gain control on/off switch
- Monitor selector switch
- Phone jack socket
- Record level control
- Replay level control
- Battery check switch
- Adjustable carrying handle
- Reel hold-downs
- Hold-back tension servo
- Head-assembly cover
- Pinch wheel
- Capstan shaft
- Supply reel
- Take-up reel
- Transport access cover.



**Side Elevation: (American connectors version shown. Continental connectors version available).**

- Local/remote control selector
- Power selector switch
- External power and remote control connector
- Line output connector
- Input selector switch
- Input connector
- Handle lock
- Cover catch
- Adjustable carrying handle.

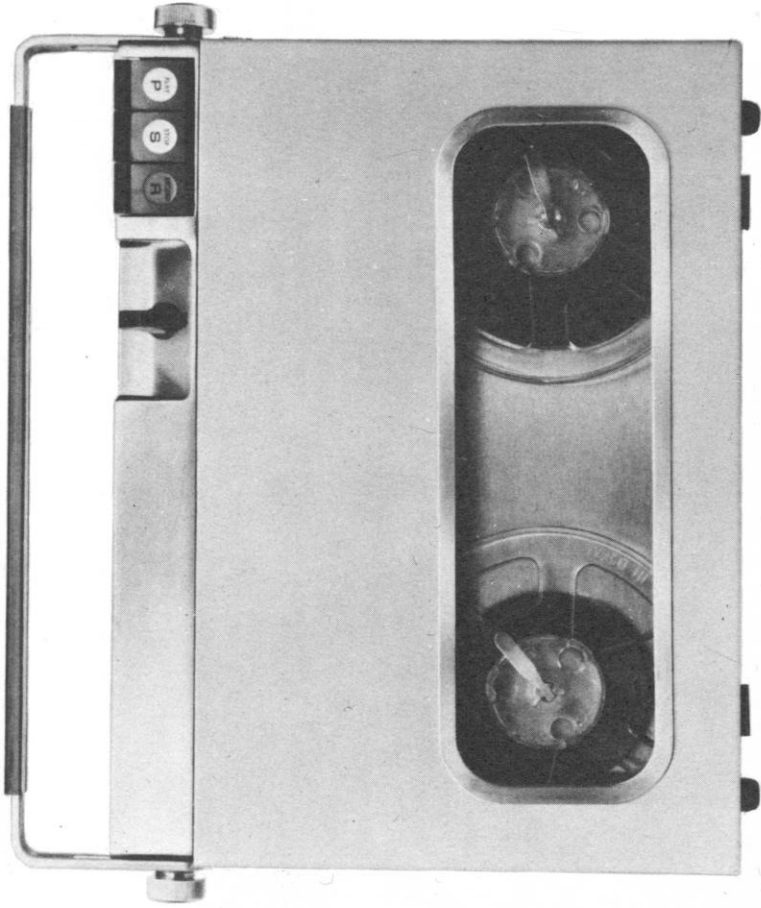
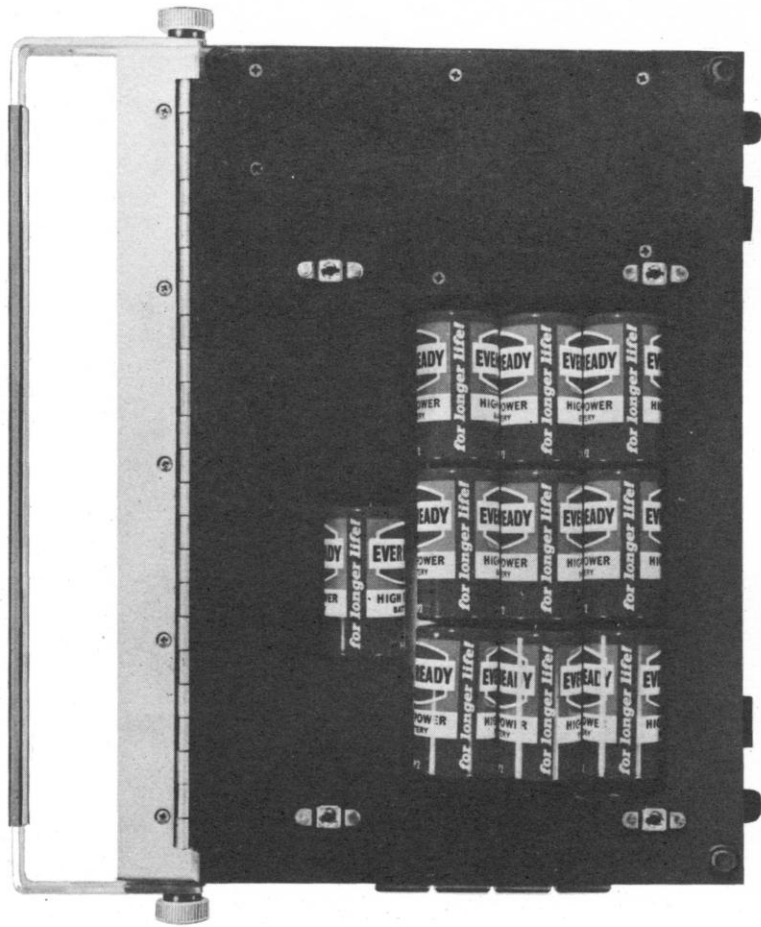


**Side Elevation: (Speaker amplifier version)**

- Speaker amplifier on/off switch
- Monitor loudspeaker
- External speaker jack socket
- Cover catch
- Adjustable carrying handle
- Handle lock.







**Underside: (Lid off)**

Non-scratch rubber feet  Detachable lid  10 standard-size batteries (U2, D-size or equivalent). Rechargeable packs can be used.

For the interviewer, sociologist, ornithologist or whoever uses a recorder outside controlled acoustic studios, the AG-20 leaves other portables standing.

Plug it into a theatre or concert hall system, and you get a tape you can play back over the air without editing. It works off either 10 U2 batteries or mains (variable for overseas currents) or a rechargeable battery pack.

There's a tough, fold-away carrying handle and an opulent black leather case with adjustable shoulder straps.

You can choose between two microphones, professional or speech quality. Or have both. Mixers, remote control unit, automatic gain control, headphones, voice operated relay, sync. control track . . . there's every conceivable extra you could want for the AG-20.



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## AG-20 Accessories

**Remote Control** Allows operation from microphone, giving record or play dependant upon setting of controls on recorder.

**Rechargeable Battery Pack** Plugs into battery compartment in place of standard battery-pack.

**AC Converter/Battery Charger** Can either be plugged into the recorder in place of the standard battery pack or be used as an external unit. Will operate recorder and charge previous accessory simultaneously.

**Recorder Carrying Case** Leather carrying case specially designed to complement and protect recorder.

**A.G.C. (Automatic Gain Control)** Provides constant level with inputs varying over a 35 db range.

**Microphones and Headphones** A range of microphones and headphones to suit most applications. All microphones incorporating the remote control feature.

**Voice Operated Relay** External Accessory plugs into microphones input.

**Speaker/Amplifier** Internal Accessory, powered by recorder power supply.

**Line Output Transformer** To give 600 ohms balanced output.

## AG-20 Battery operated recorder specifications

**Tape Speeds:** 3 $\frac{1}{2}$  & 7 $\frac{1}{2}$  ips or 1 $\frac{1}{2}$  & 3 $\frac{1}{2}$  ips or 7 $\frac{1}{2}$  & 15 ips.

**Overall frequency response (at record level of -10db).**

15 ips  $\pm$  1.5 db 50 to 16,000 Hz

7 $\frac{1}{2}$  ips  $\pm$  1.5 db 50 to 12,000 Hz

3 $\frac{1}{2}$  ips  $\pm$  2.0 db 50 to 9,000 Hz

1 $\frac{1}{2}$  ips  $\pm$  3.0 db 50 to 7,000 Hz

**Equalisation:** NAB or CCIR Equalisations are available

**Signal-to-noise ratio:**

Speed Full Track Half Track

15 ips 60 db 55 db

7 $\frac{1}{2}$  ips 60 db 55 db

3 $\frac{1}{2}$  ips 55 db 50 db

1 $\frac{1}{2}$  ips 50 db 45 db

Peak record level to unweighted noise. Includes bias erase and playback amplifier noise.

**Signal overload**

+20 db above normal operating level before clipping occurs.

**Flutter**

Speed Percentage

15 ips No greater than 0.15% rms

7 $\frac{1}{2}$  ips No greater than 0.15% rms

3 $\frac{1}{2}$  ips No greater than 0.2% rms

1 $\frac{1}{2}$  ips No greater than 0.4% rms

Percentage of total flutter is measured by the methods of American Standard Association Z57.1-1954, in a band 0.5 to 200 cps. while reproducing an Ampex Flutter Test Tape (flutter on test tape less than 0.03%).

**Playback output** From preamplifier -20dbm into 600 ohms (unbalanced). 0dbm into 200 ohms (Headphones).

**Record input** -26dbm into 100K ohms. Microphone

100 micro V to 100 mV into 200 ohms.

**Input/Output connectors**

Options: 1. XL type. 2. DIN Standard

**Start/Stop Start:** Tape is accelerated to full speed in less than  $\frac{1}{2}$  second (for 7 $\frac{1}{2}$  ips tape speed).

**Stop:** Tape moves less than 1 inch after depressing STOP key (for 7 $\frac{1}{2}$  ips tape speed).

**Fast wind speed** 50 ips (average)

**Speed stability**  $\pm$  0.25%

**Tape width** Standard  $\frac{1}{4}$  inch tape.

**Reel size** 7 inches maximum with lid open. 5 inches maximum with lid closed.

**Power requirements** ten 1.5 volt dry cells of BSR-20, IEC R20 or USA D sizes. Or 11 to 24 v. DC from any external source.

**Dimensions/Weight** Height 9.25 inches, depth 3.25 inches.

Weight recorder only 12 lbs; batteries typically, 1 lb. 14 ozs.

**Environmental characteristics**

Operating position: Any attitude

Temperature range: -18°C to +55°C (0°F to 131°F)

Relative humidity: Up to 95% (without condensation)

Vibration and shock: Will withstand all normal transport and handling vibration and shock.

**Warranty** Ampex one-year warranty.

Ampex Corporation  
strategically located  
international sales  
offices offer  
immediate service

**AUSTRALIA**  
Ampex Australia Pty. Ltd.  
NRMA House, 26 Ridge Street  
North Sydney, N.S.W.  
924-642 924-870

**BELGIUM**  
Ampex S.A., Nivelles, 067/249.21

**BRAZIL**  
Ampex Do Brazil,  
Rua Mexico 11, Conj. 602-ZC-39  
Rio de Janeiro, 22-9519

**CANADA**  
Ampex of Canada, Ltd.  
100 Skyway Avenue  
Rexdale, Ontario, 677-2370  
Ottawa Office  
Suite 800, 77 Metcalfe Street  
Ottawa 4, Ontario, 236-9763  
Calgary Office  
134 Forge Road, Calgary, Alberta  
252-5248

**COLUMBIA**  
Ampex  
Pan American Company  
Apartado Aereo 9019  
Bogota D.F., 428243

**ENGLAND**  
Ampex Great Britain Ltd.  
Acre Rd, Reading, Berkshire, 84411

**FRANCE**  
Ampex, 41 Avenue Bosquet  
Paris 7<sup>e</sup> (Seine), 705.38.10

**GERMANY**  
Ampex Europa GmbH  
Dusseldorferstr. 24  
Frankfurt/Main 252001-5

**HONG KONG**  
Ampex  
World Operations S.A.  
(Hong Kong Branch)  
102-105 Kayamally Building  
22 Queens Road C  
Hong Kong, 22-7059

**MEXICO**  
Ampex De Mexico S.A. de C.V.  
Division Del Norte, No. 1832  
Mexico 13, D.F., 39-68-70

**SWEDEN**  
Ampex AB, Trädgårdsgatan 26  
Sundbyberg, 08 28.61.90

**SWITZERLAND**  
Ampex S.A., Via Berna 2  
Lugano, Tessin, 091/3.81.12

**AMPEX  
PAN AMERICAN  
COMPANY**  
Box 4000  
Redwood City, California 94063  
(415) 367-2011

**AMPEX  
INTERNATIONAL  
OPERATIONS INC.**  
(Headquarters)  
Box 4000  
Redwood City, California 94063  
(415) 367-2011  
1212 Avenue of the Americas  
Suite 2305  
New York, N.Y. 10036.  
(212) 765-0730  
Other Ampex sales and service  
facilities are located in major cities  
throughout the United States.

Printed in England  
AGS/EAME/5/67



AG-20 PRODUCT SPECIFICATION

TAPE SPEEDS

3-3/4/7½ ips, manually switchable  
 1-7/8/3-3/4 ips, manually switchable  
 7½/15 ips, manually switchable

VERSIONS

Full track monaural  
 Half track monaural

FREQUENCY RESPONSE (at record level of -10 db)

15 ips	50 Hz to 16 KHz (± 1.5 db)
7½ ips	50 Hz to 12 KHz (± 1.5 db)
3-3/4 ips	50 Hz to 9 KHz (± 2.0 db)
1-7/8 ips	50 Hz to 7 KHz (± 3.0 db)

SIGNAL/NOISE (Unweighted)

<u>Speed</u>	<u>Full Track</u>	<u>Half Track</u>
15 ips	60 db	55 db
7½ ips	60 db	55 db
3-3/4 ips	55 db	50 db
1-7/8 ips	50 db	45 db

SIGNAL OVERLOAD

+ 20 db above normal operating level before clipping occurs

FLUTTER

<u>Speed</u>	<u>ASA Unweighted</u>	<u>DIN 4550 weighted measured on EMT 420A and Flutter Meter</u>
15 ips	better than 0.15% RMS	± 0.1 %
7½ ips	better than 0.15% RMS	± 0.1 %
3-3/4 ips	better than 0.2 % RMS	± 0.15%
1-7/8 ips	better than 0.4 % RMS	± 0.3 %

EQUALISATION

NAB, CCIR, DIN (IEC)

... / ...

INPUTS

Microphone: 100 micro V to 100 mV 200 Ohms

Line:	i.	5.5	mV	2.0 K Ohms
	ii.	1.228	V	470.0 K Ohms
	iii.	123	mV	27.0 K Ohms

OUTPUTS

From Preamp: 100 mV 600 Ohms (Unbalanced)  
 750 mV 200 Ohms (Headphones)

INPUT/OUTPUT CONNECTORS

- Options:
1. Cannon
  2. DIN Standard

NOMINAL SPEED ACCURACY

Factory set to better than 0.1 % of nominal speed

SPEED STABILITY

± 0.25 % reel to reel

FAST SPOOL SPEED

50 ips (average)

DIMENSIONS

Width	12.5	inches
Height	9.25	inches
Depth	3.25	inches

WEIGHT

Machine only 12 lbs  
 Batteries 1 lb 14 ozs (typically dependent upon type of cell)

BATTERIES

10 dry cells (U.2 or D size)

BATTERY LIFE (Dry Cells)

8 hours of tape motion when the recorder is operated for 3 hours, then permitted 21 hours battery recovery time.

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REEL SIZE

7 inches maximum

TAPE THICKNESS

1.5, 1.0, 0.5 mil

HEADS

Fully adjustable (factory or service centre pre-set, but may be re-adjusted following inadvertent mishandling)

METERING

<u>Signal</u>	V.U. meter professional standard
<u>Battery Condition</u>	Extended scale

ENVIRONMENTAL

Operating Position	Any attitude.
Operating Temperature Range	- 18°C to + 55°C (0°F + 131°F).
Relative humidity	Up to 95% (without condensation).
Vibration and Shock	Will withstand all normal transport and handling vibration and shock.