



# Brenell

## the Mark 5, Series 3 tape recorder



### MK 5 SERIES 3

Two models are available:

- (a) **Standard** having a magic eye as the recording level indicator.
- (b) **Metered** having a moving coil meter as the recording level indicator.

Both models are supplied with 1,200 ft. of tape, take-up spool and radio coupling lead (Microphone Extra)

(For current prices, please see separate price list)

SPECIALLY DESIGNED to meet the more exacting requirements of those who wish to employ tape recording for the teaching of music, drama, foreign languages or other educational purposes—in addition, of course, to normal recreational use and industrial purposes—the new Brenell Mark 5 Series 3 has a choice of four speeds and many other additional features of considerable value.

Indeed, as one studies the specification shown overleaf, it becomes obvious that no effort has been spared to ensure that the quality of reproduction attains a very high level.

Frequency correction is automatically applied at all tape speeds (15,  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ ), by means of a four-position switch. This ensures that the correct play-back characteristic—so

essential for optimum fidelity—is always available. The ultra-efficient sound-heads—the carefully designed oscillator circuit—the application of negative feedback to secure a uniform level throughout the wide frequency band—the use of a large internal elliptical speaker of high flux density—all these play their part in permitting the attainment of a standard of performance which will never fail to delight the most critical ear.

Finally, because it is realised that such a versatile instrument will be subjected to long and arduous service, Brenell engineers have developed a unit assembly system which, by permitting the instant disconnection of any of its several units, makes internal inspection, lubrication, adjustment or valve renewal, quick and easy operations.

# Special features of the

# Brenell

## Mark 5, Series 3 tape recorder

**Three Independent Outer Rotor Motors** (capstan drive motor being synchronous) chosen for their high degree of speed stability with exceptional reliability and endurance.

**Four Recording Speeds**,  $1\frac{1}{8}$ ,  $3\frac{3}{8}$ ,  $7\frac{1}{2}$  and 15 i.p.s. for maximum versatility under all circumstances.

**Instant Stop** without spillage achieved even at high speeds by positive mechanical system of proved reliability.

**Pause Key** to halt tape movement when recording or playing back. Permits the easy omission of unwanted announcements or musical passages.

**Digital Rev. Counter** enables any portion of a recording to be quickly located when desired.

**Hi-Fi Amplifier** is of advanced design and at the turn of a switch, can be used quite independently of the Tape Recorder as an amplifier for use with Radio Tuner, Pick-up or Microphone.

**Recording Level Indicator.** During recording the peak level is at all times clearly visible on the latest type of miniature magic eye or recording level meter. In this way, recordings of unvarying quality can be made without the slightest risk of failure.

**Monitoring Facilities.** Recordings may be monitored on high impedance headphones (2,000/4,000 ohms)—an invaluable feature when using a mixer unit.

**Permits the use of  $8\frac{1}{2}$  in. dia. Reels.** For professional or other applications where recordings are required to be made at a speed of 15 i.p.s. the facility of being able to use  $8\frac{1}{2}$  in. dia. reels will be greatly appreciated.

**Fast Re-wind** in either direction by switch which automatically lifts pressure pads and withdraws tape from contact with heads. Full reel of 1,200 ft. of tape can be completely rewound in 60 seconds.

**Coloured Signal Lights** to visually indicate the actual operation taking place and thereby eliminate all risk of error.

**Superimposing Facility.** It is possible with the Mark 5 Series 3 to make one recording on top of an existing recording without erasing the original, so that a combined recording is obtained. This is effected by a switch which removes the tape from the erase head (instead of switching the erase head off), thus ensuring that bias power is always maintained at the correct level.

**Hinged Tape Deck** allows quick and easy access to underside of tape deck, etc.

### Recommended General Purpose Microphones:

**Dynamic** — LM100  
Grampian DP4H  
Lustraphone LFX 59Z

**Ribbon** — Grampian GR2/H

(For current prices, please see separate price list)

# Brenell

**BRENELL ENGINEERING CO. LTD**

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## SPECIFICATION

**TAPE SPEEDS:**  $1\frac{1}{8}$ ,  $3\frac{3}{8}$ ,  $7\frac{1}{2}$  and 15 i.p.s.

**MOTORS:** Three outer rotor (Synchronous Hysteresis type for driving capstan).

**WOW AND FLUTTER:**  
Less than 0.05% at 15 i.p.s.  
0.1% at  $7\frac{1}{2}$  i.p.s.  
0.15% at  $3\frac{3}{8}$  i.p.s.  
0.25% at  $1\frac{1}{8}$  i.p.s.

### RECORD/PLAYBACK FREQUENCY RESPONSE:

15 i.p.s. 40 c/s to over 15 kc/s  $\pm$  2dB  
 $7\frac{1}{2}$  i.p.s. 40 c/s to 14 kc/s  $\pm$  3dB  
 $3\frac{3}{8}$  i.p.s. 40 c/s to 11 kc/s  $\pm$  3dB  
 $1\frac{1}{8}$  i.p.s. 40 c/s to 5 kc/s  $\pm$  3dB

Measured at Ext. Amp Socket across 47 k ohm load.

**AMPLIFIER RESPONSE:** 40 c/s to 20 kc/s  $\pm$  3dB

**BASS CONTROL:** 9 dB lift at 100 c/s.

**SIGNAL/NOISE RATIO:** Unweighted—including hum—45 dB.

**SENSITIVITIES:**  
FOR PEAK MODULATION A MINIMUM SIGNAL OF:

MICROPHONE: 2.0mV (Impedance 1 Megohm).  
RADIO: 75mV (Impedance 220 k ohms).

**POWER OUTPUT:** 2.5 watts r.m.s. into 15 ohm loudspeaker.

**EXTERNAL AMP OUTPUT:** 500mV across 47 k ohms.

### IMPEDANCES:

Input: Microphone, 1 megohm (high).  
Radio, 220 k ohm (medium).  
Output: Loudspeaker, 15 ohms.  
External amp, 47 k ohms.

### SOCKETS:

MICROPHONE Standard Jack Socket.  
RADIO Standard Jack Socket.  
MONITOR Standard Jack Socket.  
EXT. SPEAKER Standard Jack Socket.  
EXT. AMPLIFIER Standard Coaxial Socket.

**MONITORING:** High Impedance Headphones (2000 to 4000 ohms) may be used for monitoring the recording amplifier.

**RECORDING MEDIUM:** Standard  $\frac{1}{4}$  in. plastic coated tape on reels up to  $8\frac{1}{2}$  in. in diameter.

**TRACK WIDTH:** 0.095 in. displaced to one edge.

**TRACK SENSE:** To International Standards. (Upper track operative. Tape movement L to R across heads).

**NUMBER OF TRACKS:** Two.

### PLAYING TIMES per reel:

	$1\frac{1}{8}$ i.p.s.	$3\frac{3}{8}$ i.p.s.	$7\frac{1}{2}$ i.p.s.	15 i.p.s.
2,400 ft. 7 in. D.P. Tape	8 hr	4 hr	2 hr	1 hr
1,800 ft. 7 in. L.P. Tape	6 hr	3 hr	1½ hr	45 min
1,200 ft. 7 in. Std. Play Tape	4 hr	2 hr	1 hr	30 min

(Add 50% to above times for  $8\frac{1}{2}$  in reels of tape).

**REWIND TIMES:** Approx. 60 seconds per 1,200 ft. of tape.

**WORKING VOLTAGE:** 200-250V 50 c/s  
(or to order 100-125V 60 c/s).

**POWER CONSUMPTION:** 100 watts.

**VALVE COMPLEMENT:**  
1—ECC81, 1—ECC83, 1—EM87, 1—EL84,  
1—EZ80/81.

**LOUDSPEAKER:** 9 in. X 5 in. High Flux, Elliptical.

**CABINET:** A specially designed wooden cabinet with excellent acoustic properties giving high quality from the internal elliptical speaker. Deck and amplifier protected by tastefully designed masks.

**FINISH:** Grey with chromed fittings.

**OVERALL DIMENSIONS:** 18 in. X 17 in. X 9 in.

**NETT WEIGHT:** 40 lb.

Brenell Engineering reserve the right to alter the specification as modifications are made.