

Brenell

MODEL STB2

MONO

STEREO



BRENELL

STB2 Superb

brilliant design and engineering

A mono/stereo record/replay unit comprising a 4 speed tape deck, twin recording and twin replay pre-amplifiers suitable for connection to external Hi-Fidelity amplifier and/or the Stereo amplifier listed below as an optional extra.

Introduction

Today, thanks to the skill, inventiveness and perseverance of scientists and engineers, we can enjoy a quality of sound reproduction only dreamed of a few years ago.

Who, at the beginning of the 20th century listening in amazement to the wheezy, crackling sounds emanating from the recently invented Edison Phonograph could have imagined that soon a quality of sound reproduction would be possible which compared favourably with the original sound?

Research continues, always with the object of removing the obstacles which prevents the recorded sound being identical to the original and in the Brenell STB2 a valuable contribution has been made towards this end.

In these days of that modern invention the tape recorder, few High Fidelity enthusiasts are content to just listen to the recordings of the professional engineers, consequently there is an increasing demand for high quality tape recording equipment which is designed for use with their splendid assemblies of disc and radio reproducing equipment — the STB2 meets this demand.

The STB2, primarily designed for stereophonic use in conjunction with Hi-Fidelity amplifiers, will no doubt find favour with many enthusiasts who do not indulge in the delights of stereophonic sound, for example the cine film requires a sound accompaniment including speech, music and sound effects which cannot easily be prepared on a "normal" tape recorder; the Linguist will save valuable time and avoid errors if he can play a "master" language tape on one track and make his own recording on another track in order that a comparison of his efforts with the "master" may be heard in quick succession and as frequently as he wishes.

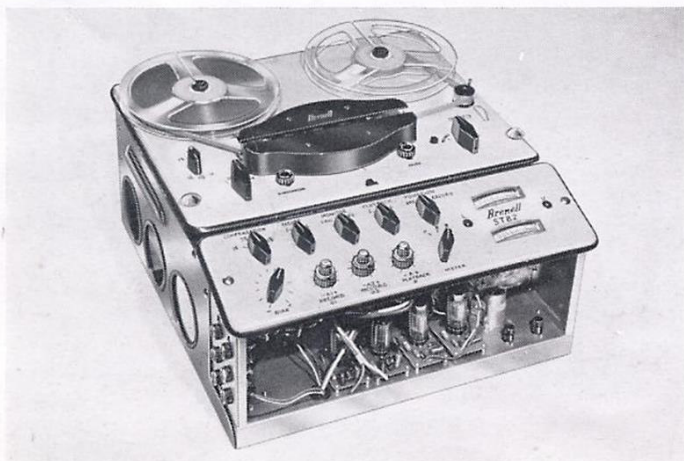
Some folk require a recording unit for installation into their Hi-Fi consoles whilst others require a complete machine. The STB2 is designed to meet both requirements for it is available with its own complete monitoring amplifiers and loudspeakers or with monitoring pre-amplifiers for coupling

to any make of Hi-Fi amplifier.

The tape deck, recording amplifiers and playback pre-amplifiers are mounted on a robust metal frame (which will also accommodate the monitoring amplifiers and speakers of the complete recorder) which is fitted into a strong wooden carrying case. The technician will realise that by this method of construction we have made possible the permanent "dressing" of cables and avoidance of "hum loops" — two difficult problems which often confront him.

We are aware that more and more pre-recorded stereo tapes are being made under the 2/4 track system, yet many enthusiasts insist on 2/2 track record/replay facilities in order to obtain the many advantages of the 2/2 system, therefore, instead of resorting to the compromise of fitting 2/4 track heads which may be adjusted for height, we have added a 2/4 track replay head to the 2/2 record/playback model in order that mono and stereo 2/4 tapes may be replayed. (It should be noted that whilst a 1/2 track mono tape will replay on a 2/4 track head, a 2/2 track stereo tape may be unsuitable for correct reproduction on a 2/4 track head.)

Normally we find that a deck capable of accommodating spools of tape up to 8 1/4" in diameter meets most people's requirements, but for those using larger spools a model of the STB2 for both normal and N.A.B. spools up to 10 1/2" in diameter is available.



Stereophonic recording

Facilities

Mixing

4 Channel Mixing for Mono.
2 Channel Mixing for Stereo.
(Two signals per track may be mixed when recording stereophonically but when mono recording all four input channels may be used.)

Pre-Set Channel Sensitivity

All four input channels may be independently adjusted to match microphones, radio turners, gramophone pickups (compensation is incorporated) Hi-Fi preamps, etc. To the best of our knowledge this is a unique feature.

Monitoring

Whilst recording, the actual recorded programme may be heard a fraction of a second after recording has occurred. (System known as "Tape Monitoring".)

Comparison

The recorded signals may be compared with the original as recording proceeds. (System known as "A-B" Switching.)

Variable Bias

An unusual, but frequently requested facility. Variable bias enables the

optimum results to be obtained with various brands of tape at any tape speed. (Meter may be switched to read the bias voltage.)

Sound-on-Sound

A system to overcome the deficiencies of superimposing. Normal superimposing partially erases the master recording, but this system of Sound-on-Sound enables a master or primary recording to be transferred (re-recorded) to the other track together with a secondary recording. As the primary recording may be heard during this process, synchronisation of the two signals is easily accomplished. The new, combined recording may then be used as the primary and the process repeated, adding a third signal if so desired.

Musicians wishing to combine recordings of themselves playing various instruments or parts will find this system invaluable whilst the task of making ambitious sound tracks will be greatly simplified.

Language Laboratories Application, Master Recording is made upon one track, the pupil replays this master recording and records his efforts on the other track—stereo position is then selected for dual playback with the master from one channel and pupil from the other.

Superimposing

The normal method of superimposing one sound upon another is provided for

by a method which does not cause variations to the recording bias level.

Recording

Mono recordings may be made upon either track, from any of the four input channels, both tracks being used for stereo—level of recording easily visible on the large scale meters—automatic erase selection—mixing facilities.

Playback

Two types of replay head are fitted enabling the optimum results to be obtained from both $\frac{1}{2}$ track and $\frac{1}{4}$ track (mono and stereo) tapes. The meters may be switched to read the playback levels. The output from the replay pre-amplifiers may be adjusted to individual requirements.

Metering

Two illuminated edgewise scaled meters are incorporated to measure: (a) Recording level; (b) Tape output level; (c) Bias level.

RECOMMENDED MICROPHONES

(2 required for stereo)

DYNAMIC:—
GRAMPIAN DP4H
LUSTRAPHONE LFFV59/H
RIBBON:—
RESLO RBT/H

IMPORTANT FEATURES

- COMPARISON WITH ORIGINAL
- MIXING FACILITIES
- ADJUSTABLE SENSITIVITY
 $\frac{1}{2}$ mV TO 1 VOLT
- PICK-UP COMPENSATION
- ADJUSTABLE BIAS
- FOUR RECORDING SPEEDS
- REPLAY FACILITIES FOR
 $\frac{1}{2}$ AND $\frac{1}{4}$ TRACK TAPES

Model STB2/5/2

2/2 record/replay facilities plus 2/4 replay.

Spool sizes up to 8 $\frac{1}{2}$ " diameter.

PRICE £150 Including 1200' Tape, 7" spool and 6 Jack Plugs.

Model STB2/510/2

As STB1/5/2 but spool sizes up to 10 $\frac{1}{2}$ " N.A.B.

PRICE £170 Including 1200' Tape, 7" spool and 6 Jack Plugs.

Optional Extra

Internal mounting stereo amplifiers with Bass and Treble Controls plus 2 monitoring loudspeakers.

PRICE £25

SPECIFICATION

3 Motors:

Hysteresis synchronous type for capstan drive.

4 Speeds:

15, $7\frac{1}{2}$, $3\frac{3}{4}$, $1\frac{7}{8}$ i.p.s.

Wow and Flutter:

15 i.p.s. less than .05%

$7\frac{1}{2}$ i.p.s. less than .1%

$3\frac{3}{4}$ i.p.s. less than .15%

$1\frac{7}{8}$ i.p.s. less than .25%

Spool Sizes:

STB/5/2 Up to $8\frac{1}{4}$ " diameter.

STB/510/2 Up to $10\frac{1}{2}$ " diameter.

Power Requirements:

200—240 V, 50 c/s (100—120 V, 60 c/s to order).

Power Consumption:

Watts. 100. (STB2)

Watts. 50 (Monitor Amps)

Revolution Counter:

Four digit type coupled to take-up spool.

Separate Record and Replay Heads:

2/2 Erase, 2/2 Record, 2/2 Replay, 2/4 Replay.

Fast Rewind:

Approximately 60 secs. per 1,200' tape.

Pause Control:

To enable editing, etc., to be easily accomplished.

Interlocking:

Deck switches are interlocked to prevent rewind switch being operated when record/replay switch is in use.

D.C. Heated Valves in Record and Playback Pre-amps.

Replay Heads:

Two replay heads are fitted, one for use with 2/2 (half track) and the other for use with 2/4 (quarter track) tapes—mono and stereo.

Recording Amplifier

4 INPUT CHANNELS.

(Two per track stereo, four per track mono.)

Meters:

Two illuminated edgewise scaled meters to indicate:

(a) Recording level;

(b) Bias level;

(c) Replay level from tape.

Input Sensitivities:

(Per channel)

ADJUSTABLE from $\frac{1}{2}$ mV to 1 V (compensation for pick-ups) into 1 Meg. ohm.

Mixing Facilities:

Mono — 4 Channels

Stereo — 2 Channels
on each track.

Frequency Correction:

Recording and replay characteristics are selected to suit tape speed by means of a single control.

New CCIR or to order.

Track Selector:

STEREO — Both tracks in circuit.

Upper — All signals to upper track.

Lower — All signals to lower track.

Comparator Switch:

Either the original signal or the recorded signal may be fed through the replay amplifier thus enabling a comparison to be made between them.

Replay Pre-amplifier

Two Channels — A — Upper Track.

— B — Lower Track.

Dual Concentric. Gain Controls.

Outputs:

Cathode Follower.

One per channel. Levels variable from a few millivolts to 1.5 volts across 600 ohms load.

Head output may be observed on the meters.

Noise Level:

50 dB below peak recording level.

Track Selector:

A switch enabling playback from:

(a) Upper Track.

(b) Lower Track.

(c) Both Tracks.

In positions (a) and (b) the signal is fed to both output sockets.

Frequency Response: (Record/Playback)

15 i.p.s. 40 c/s to over 15 Kc/s ± 2 dB.

$7\frac{1}{2}$ i.p.s. 40 c/s to 14 Kc/s ± 3 dB.

$3\frac{3}{4}$ i.p.s. 40 c/s to 11 Kc/s ± 3 dB.

$1\frac{7}{8}$ i.p.s. 40 c/s to 6 Kc/s ± 3 dB.

It should be noted that the spools will overlap the deck mask as follows:—

STB2/5/2

7" SPOOLS OVERLAP $\frac{1}{2}$ " to rear.

$8\frac{1}{4}$ " SPOOLS OVERLAP $1\frac{1}{4}$ " to rear and $\frac{3}{4}$ " each side.

STB2/510/2

7" spools overlap $1\frac{3}{4}$ " rear and $1\frac{1}{2}$ " each side.

$8\frac{1}{4}$ " spools overlap $2\frac{3}{8}$ " rear and $2\frac{1}{8}$ " each side.

$10\frac{1}{2}$ " spools overlap $3\frac{1}{2}$ " rear and $3\frac{1}{4}$ " each side.

Weight: 48 lbs.

Case Size: $19\frac{1}{2}$ " \times $17\frac{1}{2}$ " \times $9\frac{1}{2}$ ".

Frame Size:

Width: (L to R) $15\frac{1}{2}$ ".

Height at rear: $7\frac{1}{4}$ ". Depth (Front to rear) $16\frac{1}{2}$ ".

Height at front: 6".

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

OPTIONAL EXTRA

STB2 MONITOR AMPLIFIER and LOUDSPEAKERS

This stereo power amplifier is designed for use with the STB2 playback pre-amplifiers. Amplifiers and speakers may be fitted inside the STB2 frame. Two matched channels, each with an output of 3 watts, are provided with Treble, Bass and Volume controls, Extension speaker sockets (the internal speakers will be muted when these are used) speaker phasing switch and mains switch.

SPECIFICATION

FREQUENCY RESPONSE

25 c/s to 25 Kc/s

TREBLE CONTROL

+8 dB to -20 dB at 10 Kc/s

BASS CONTROL

+8 dB to -8 dB at 50 c/s

OUTPUT: 3 watts per channel
speakers two 5" \times 3" (15 ohms)

EXTERNAL SPEAKER SOCKETS

SPEAKER PHASING SWITCH

MAINS SWITCH

MAINS PLUG AND SOCKET

PRICE (Inc. Two Loudspeakers) £25

Sole Manufacturers

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