

If you wish to enjoy all that your records - especially your stereo records — have to offer, it is highly important that your record player is of superior quality, free from vibration and rumble. Your new B & O 3-speed Stereo Player meets these requirements. Chief factors are the tone arm and the pick-up cartridge. The B & O tone arm is so perfectly balanced that it will play records even with the record player tilted up to 90 degrees. The stereo pick-up itself is a marvel of precision engineering. It uses a diamond stylus, and the necessary stylus pressure is less than 2 grams. — The B & O stereo pick-up is exported to all countries of the world.

If you follow the operating instructions closely, your B & O player will give you years of perfect reproduction with a minimum of record wear. - If some minor defect arises, please contact your B & O dealer, who will see to it that it is repaired at once. For if you decided in favour of a B & O product because you refused to be content with less, your dealer and we ourselves refuse to be content with anything less than a satisfied B & O customer.

Yours Faithfully



A/S BANG & OLUFSEN PRODUKTIONSELSKAB  
BY APPOINTMENT TO THE ROYAL DANISH COURT

## OPERATING INSTRUCTIONS FOR B&O BEOGRAM 1000 RECORD PLAYER

These operating instructions cover two record players:

BEOGRAM 1000 V (which has no built-in transistor pre-amplifier),  
and BEOGRAM 1000 VF (which has a built-in transistor pre-amplifier).

### MOUNTING THE COUNTERWEIGHT AND PICK-UP

In order to avoid permanent damage to the tone arm bearings during transport, the counterweight and pick-up are removed from the tone arm before the record player leaves the factory, and packed separately.

The counterweight is equipped with a ball lock permitting it to be removed and replaced without the use of tools. The pick-up plugs into the socket in front of the arm. Assembly according to the instructions, leaves the arm completely balanced.

To mount the counterweight, place it on the tone arm and turn it until the ball lock engages with the matching hole in the bush. To mount the pick-up, press the four pins into the corresponding holes in the socket. Ensure that the pick-up is pushed home against the arm.

During both these operations, it is important to hold the arm firmly to avoid any force being applied to the bearings, as otherwise they may be damaged.

Stylus pressure is adjusted by moving the ring on the pick-up arm to the appropriate mark on the calibrated scale. Recommended pressure is 2 gms.

### OPERATION

Set the speed selector at the rear left-hand corner of the player deck, to the desired speed (78, 45 or  $33\frac{1}{3}$  rev./min.).

**NOTE:** Knob must be turned only in direction of arrow.

Lifting the Pick-up out of the arm rest starts the motor automatically. Move the pick-up lift lever, on the front RH corner, to the right. This lifts the pick-up, which can then be moved and

placed above the desired record groove. Moving the lever to the left, gently lowers the stylus into the groove. At the end of the record, move the knob to the right. This lifts the pick-up above the record surface, so that it can be safely handled. Replacing the pick-up in its rest shuts off the motor automatically.

In order to determine whether the turntable is rotating at the correct number of revolutions per minute, its inner portion is a stroboscopic disc for  $33\frac{1}{3}$  rev./min. If the stroboscopic disc is illuminated by a lamp powered from the mains, the black segments should appear stationary with the speed selector set at  $33\frac{1}{3}$  rev./min. If the segments appear to move against the direction of rotation, the turntable is rotating too slowly; if they appear to move in the direction of rotation, the turntable is rotating too fast.

To correct motor speed, adjust the small knob in the centre of the speed selector knob. When this adjustment has been made, all three speeds will be correct. Readjustment may be required only occasionally.

### Technical Specifications for BEOGRAM 1000 V:

Tone arm:	Type ST/L — $15^\circ$ , balanced for neutral equilibrium.
Rumble:	Approx. 35 dB below reference voltage from pick-up at 1.4 cm/sec., 100 c/s; equalizing according to NARTB standard.
Wow:	$\pm 0.2\%$ (peak to peak).

### Technical Specifications for BEOGRAM 1000 VF:

Tone arm:	As for BEOGRAM 1000 V.
Rumble:	As for BEOGRAM 1000 V.
Wow:	As for BEOGRAM 1000 V.

The BEOGRAM 1000 VF Incorporates, as stated on page 6, a B & O Type GF 3 transistor pre-amplifier, which has these specifications:

Load impedance:	15 k ohms.
Input impedance:	Matches B & O Type SP 7 stereo pick-up.
Distortion:	0.5 % at average signal from pick-up.
Frequency response:	20 Hz—20 kHz $\pm 2.5$ dB (overall for pick-up and amplifier).

Output voltage: 0.56 volt at 1000 c/s for an input voltage of 7 mV, corresponding to a gain of 38 dB.

Noise level: -62 dB.

Supply voltage: 14 volts AC (from motor).

Current drain: 4 mA.

Voltage doubler: Two OA 81 diodes.

Transistors: One BC 109 per channel.  
One 2N 2613 per channel.

Both record players are fitted with the B & O Type SP 7 stereo pick-up with diamond stylus. The pick-up plays both stereo records and monaural long-playing records — 45 and  $33\frac{1}{3}$  rev./min.

#### Technical Specifications for TYPE SP 7 PICK-UP

Frequency response: 20 Hz—20 kHz  $\pm$  2.5 dB.

Output voltage: 7 mV per channel for 5 cm/sec at 1000 Hz.

Channel Balance: Within 2 dB.

Channel separation:  $\geq$  20 dB at 1000 Hz.

Compliance:  $12 \times 10^{-6}$  cm/dyne.

Effective Tip Mass: approx. 1.5 mg.

Mass of Diamond: approx. 0.7 mg.

Stylus: 15  $\mu$  (6 mil) spherical diamond.

Vertical tracking angle: 15°.

Recommended stylus pressure: 2 gms.

Recommended load: 47 k ohms (or Type GF 3 pre-amplifier).

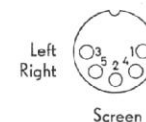
Stylus units with a radius of curvature of 75 microns, for 78 rpm records, are also available. Replacement units are colour coded (line on black plastic nose) as follows:

15 microns = blue

75 microns = green.

For monaural records, the two channels should be connected in parallel.

#### DIN PLUG CONNECTIONS:



#### REPLACING THE STYLUS UNIT.

Pull off the pick-up from the socket in the arm.

During this operation, it is important to hold the arm firmly to avoid any force being applied to the bearings. The arm bearings are not designed to withstand the pull required to withdraw the pick-up pins from their socket.

To replace the diamond slacken the screw on the underside of the pick-up and pull off the cover with the black nose. The stylus unit is mounted in the cover.



When fitting the new cover with the stylus unit, care should be taken that the whole unit is pressed firmly home before tightening the screw.

#### CAUTION:

Stereo and long-playing records are easily damaged and great care should therefore be taken in handling them. This also applies to the stylus. The diamond should be cleaned frequently, using a soft brush, and records should be wiped before use with a soft slightly moistened cloth that does not fluff. The pick-up should be lowered carefully on to the record, by means of the pick-up lift.

The pick-up should not be left on the record after the record has finished or when the player is not in use.

Records should always be played at the correct speed.

The right to alteration of the contents is reserved.