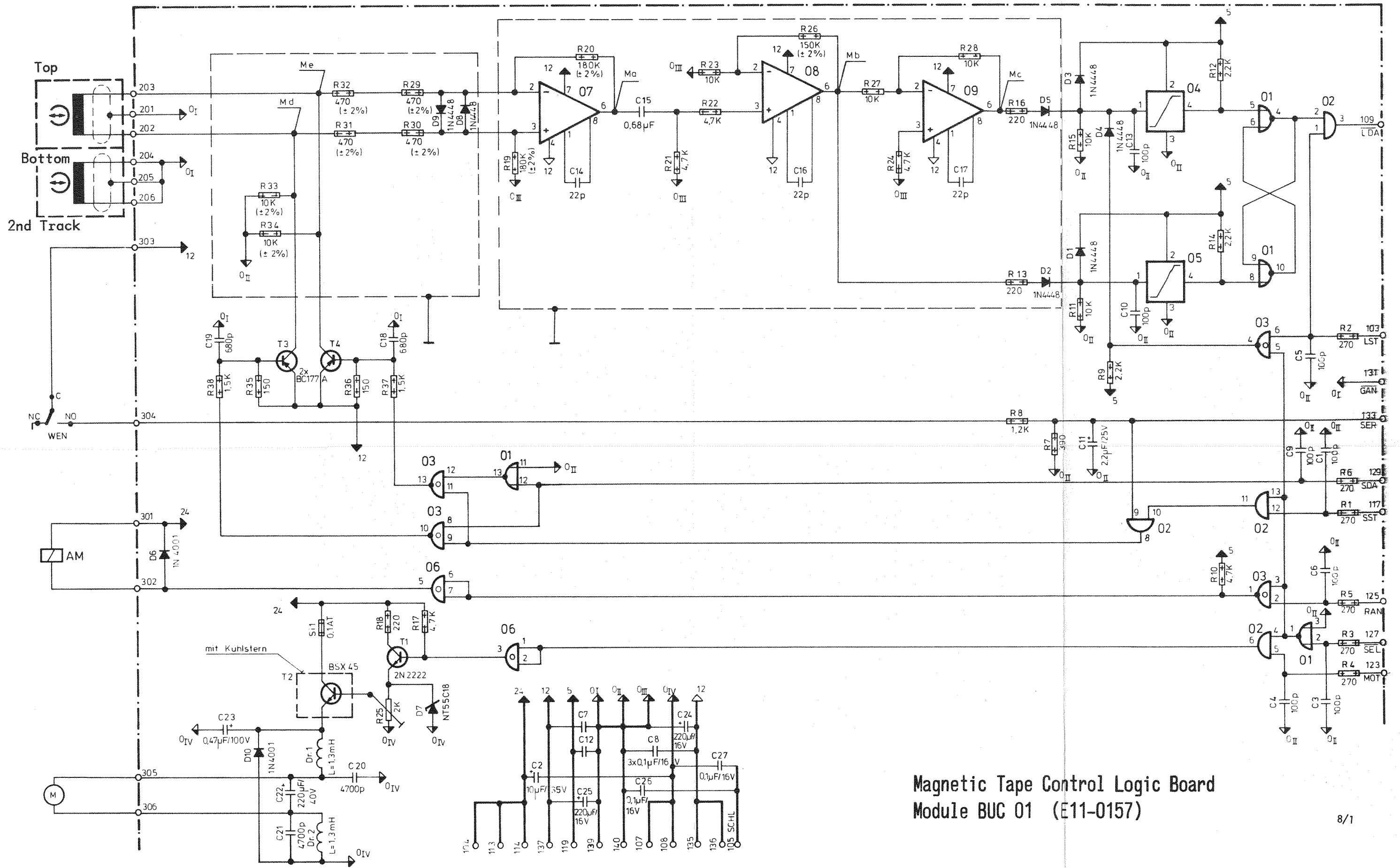


8. MBKE 2



Magnetic Tape Control Logic Board
Module BUC 01 (E11-0157)

Magnetic Tape Cassette Unit MBKE 1

Programmes and data can be recorded and read with MBKE 1.

Memory capacity:	2 x 250 K Byte
Programme recording, maximum:	99 tape marks
Recording procedure:	PE (Phase Encoding)
Write/read speed:	750 Byte/S = 19 cm

The durability of the magnetic head is 5000 hours as indicated by Philips. We made attempts with various tapes which gave different results. The only satisfactory tape is the one from BASF.

Other tapes showed slight read amplitudes with slightly worn out head.

If such a tape were inserted in a BASF cassette, the read amplitude would again become satisfactory. Thus the difficulty lies on the cassette but not on tape. The BASF tape is guided on rollers.

One points out that upon using other cassettes the durability of the magnetic head is considerably reduced. The tapes supplied by us are only from BASF.

	3K Vers. <u>old</u>	3K Vers. <u>new</u>	8K Version
B000 - BBFF	BAG Ø4 (No.44)	BAG 28	BAG 50
B400 - B7FF	BAG Ø4 (No.45)	BAG 29	BAG 51
B800 - BBFF	BAG Ø4 (No.46)	BAG 30	BAG 52
BC00 - BFFF	free	free	BAG 56

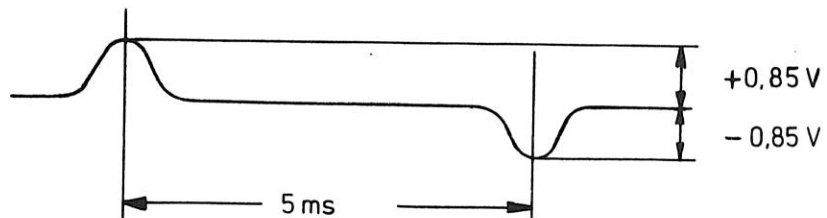
BAD (MBKE 1)

1. Adjustment instructions for magnetic tape control board
Module BUC01 electrical

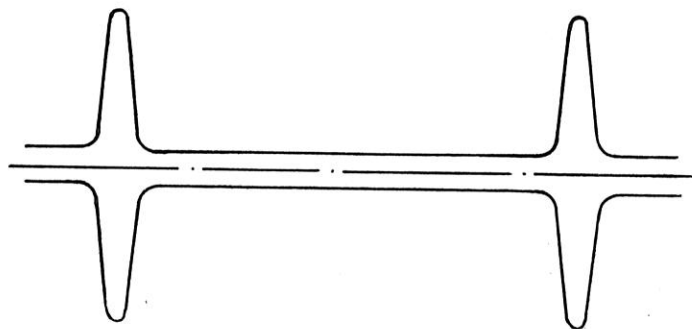
- 1.1 The speed adjustment ($V_{nenn} = 9.5 \text{ cm/s}$) of the mechanism takes place with the help of a 50 cs check cassette (part No. E 702.60013) and of the adjusting resistance R 25.

Measurement: Probe head 1 : 1 to Ma;

Adjust adjustable resistance so that the pulse distance is 5 ms, with a pulse height of approx. 0.85 V.



- 1.2 Measurement: Probe head 1 : 1 to Ma, switch over 10 times on ext. horiz., set $30 V_{SS}/50 \text{ cs}$ to horiz. input gate, set time to 50 ms/cm. With correct V_{nenn} adjustment a steady picture results with 2 pos. and 2 neg. pulses (see fig.). If not regulate so long till picture is steady, then seal adjusting resistor.



2. The upper head track of the mechanism must be adjusted to max. read signal, measured on Ma.

3. Description of MBKE 2 - electronics board

3.1 Motor selection

Signal MOT to log. 1

Signal $\overline{\text{SEL}}$ " " \emptyset

Transistor T1 is switched through; adjust zener-diode to approx. 18 V.
Via Poti R 25 speed of the mechanism ($V_{\text{henn}} = 9.5 \text{ cm}$) is adjusted.

3.2 Magnet selection

Signal RAN to log. 1

" $\overline{\text{SEL}}$ " " \emptyset

3.3 Write

Signal $\overline{\text{SEL}}$ to log. \emptyset

" SST " " 1

Switch in the mechanism must be closed.

Input of the data via SDA.

With input of log. \emptyset T4 switches through.

" " " " 1 T3 " "

3.4 Read

3.4.1 Preferable position of the FF

Signal $\overline{\text{SEL}}$ log. \emptyset

" LST " \emptyset

FF formed through chip 01, has log. \emptyset at output 4 and log. 1 at output 10.

3.4.2 Read release

Signal $\overline{\text{SEL}}$ to log. \emptyset

" LST " " 1

" MOT " " 1

" RAN " " 1

The read signal is amplified when cassette is recorded (chip 07,08) and is turned to the output of chip 09. The FF formed from chip 01 is set in corresponding position. The minimum read voltage on Ma is 0,85 V_{ss} and on Mb 8.5 V_{ss}.

The nominal values are 1.7 V_{ss} and 17 V_{ss}.

3.4.3 Checking of the read amplifier circuit

3.4.3.1 Disconnect write/read head and connect frequency to 3.5 mV_{ss}
10 mV_{ss}.

3.4.3.2 $f_u = 650$ cs and $f_o = 3$ kc/c

3.4.3.3 With the adjustments:

3,5 mV_{ss} 650 c/s

3,5 mV_{ss} 3 kc/s

10 mV_{ss} 650 c/s

10 mV_{ss} 3 kc/s

the FF must be set with every pulse and the output LDA must react.

Adjustment and maintenance instructions for the cassette mechanism
(Grundig) TA 20 mechanical

1. Motor supply

The operating voltage for the motor is max. 24 V.

The voltage source for motor control is on board 30342. The voltage is regulated via resistor R 25.

2. Adjustment of the transport shaft

The adjustment is effected in position "Start" with check cassette inserted. During transport the magnetic tape may not run out between the transport shaft (1) and the pressure roller (2) and may not kink on the upper and lower edges of the ribbon guide fork of the write/read head (4).

Re-adjustment is effected on the bearing plate (5). This is seated on the lower part of the mechanism of the transport shaft (1).

3. Pressure roller

The parts concerned are mounted and adjusted according to list in corresponding sequence.

3.1 Armature magnet (21)

Lift adjustment: 1 mm between stop and yoke.

Adjust adjusting ring (22) with a distance of 15 mm to the axle end.

3.1.2 Mount the axle (10) in following sequence.

1st Bail side (9)

2 Pcs. adjusting rings

1 Pc. compression spring

2nd Bail side (9)

- 3.1.3 Mount the free side of the axle (10) in the pressure roller lever (6) and insert the adjusting ring (22) in the armature lever (24).
- 3.1.4 Operate magnet electrically or by hand. Function switch in position "Start".
- 3.1.5 The roller pressure $300 \text{ p} \pm 30 \text{ p}$ is adjusted with the help of the front adjusting ring (11).
Adjusting ring (22) must contact the armature lever.
Distance resulting from roller pressure:
Adjusting ring (11) and bail $9.8 \pm 0.2 \text{ mm}$.
Measure roller pressure and, if need be, readjust beyond tolerance.
Adjust a distance of $0.4 + 0.1 \text{ mm}$ between adjusting ring (25) and bail. Align adjusting screws of the adjusting rings (11) and (25).
- 3.1.6 Observe when mounting the covering that the bail (9) hangs downwardly and the screws point upwardly.
The pressure roller force is measured with a spring scale on the bore (12) provided for it, near the pressure roller (2).
- 3.2 Parallelity of the transport shaft (1) and pressure roller (2)
- If the pressure roller (2) is lifted in position "Start" from the transport shaft (1), the air gap must be equal on top and bottom between pressure roller (2) and transport shaft (1).
Carry out any re-adjustment on the riveted bolt (13).

Observe: The lifting is effected in position "Start", i.e. it may not be effected through rotary toggle (14). The pressure roller lever (6) must be lifted with an appropriate tool in the bore (12) provided for it. The transport shaft (1) must be pressed with 300 p at the same time, against the lift direction of the pressure roller (20).

3.3 In position "Start" with magnet attracted there must be a distance of approx. 1 mm between pressure roller lever (6) and stop bridge (15).

Adjust by bending the stop bridge (15).

3.4 In operation position and position "Start", with magnet attracted, the pressure roller (2) must run to the upper and to the lower stops without tape transport between 4 and 15 sec.
Readjustment of the pressure roller lever (6) takes place through changing the slot (16) (expanding or bending).

4. Clutch

Exchange clutch felt in case of irregular run of the tape.

5. Cleaning

For longer operation of the mechanism dirt of the head (4), of the transport shaft (1), of the pressure shaft (2) and of the guide unit takes place through tape drive and ambient conditions indicated.

1. Open cassette unit
2. Remove cassette chute
3. Clean write/read head plane (18), transport shaft (1), pressure roller (2), running surfaces of the intermediate wheel (19) and of the right clutch (17), guide bail (20).

Cleaning is carried out with spirit.

ADJUSTMENT AND MAINTENANCE

Instruction for the
cassette mechanism of
the TA 20

