

UNIT DESCRIPTION

DISPLAY / KEYBOARD

FOR NSM-PHONOGRAPHS

ES V-CD TECHNOLOGY

to
Technical Information, ASSY

176 393	THE PERFORMER GRAND II
176 352	THE WIZARD/ OLD FASHION WIZARD
176 514	THE PERFORMER CLASSIC
176 610	CD HIDE-AWAY II
176 598	FIREBIRD II
176 705	THE PERFORMER WALL

NSM

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1 FUNCTION

1.1 Display

The shift registers IC 301 through IC 303 are the output ports for the display control.

The display is operated in the multiplex mode.

The segment information is prepared for one digit with IC 302 and IC 303 via drivers IC 308 and IC 309.

The transistors T 303 through T 305 are controlled by IC 307 via IC 301 and switch on the appropriate multiplex level for 4 milliseconds.

Resistors R 332 to R 345 determine the segment current.

Lamps L 1 to L 5 are controlled statically via IC 307, Pin 12 and 14 and IC 306, Pin 19, 11, 12.

Resistors R 325 to R 329 limit the transient current.

The load signal for the output shift registers is monitored by circuit IC 306, Pin 4 and 13; R 306; C 303; D 301.

During the duration of the load signal the display is dark.

C 303 is discharged via D 301 and IC 306, Pin 13.

OE of IC 301 to IC 303 becomes LOW and thereby inactive.

If no load signal occurs, OE becomes inactive via R 305.

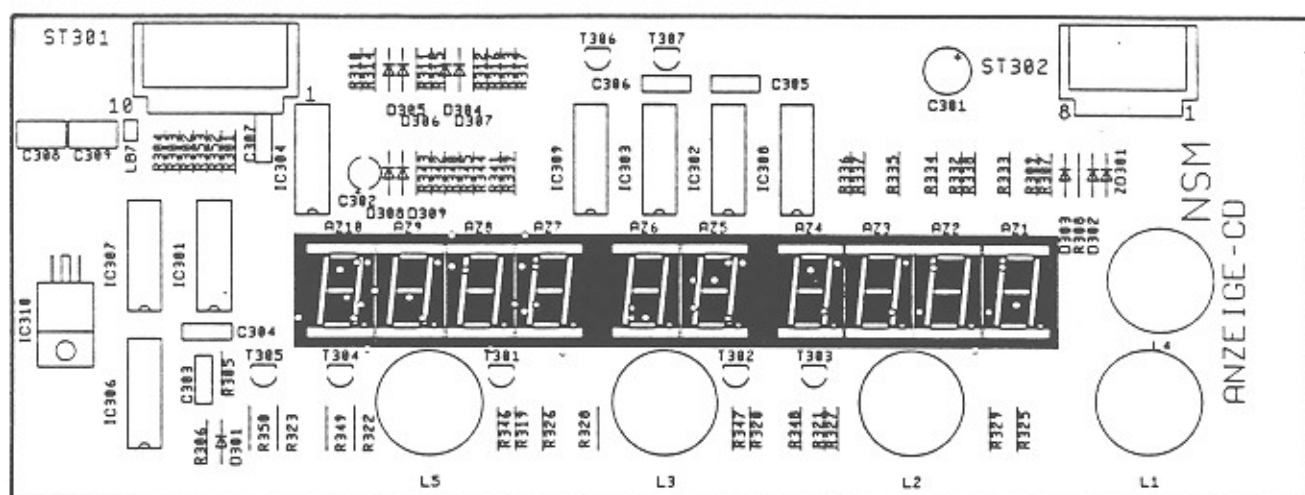
Capacitor C 302 avoids lighting up of the digits after switching on.

1.2 Keyboard

IC 301 is an input port for the keyboard which is connected to plug ST 302.

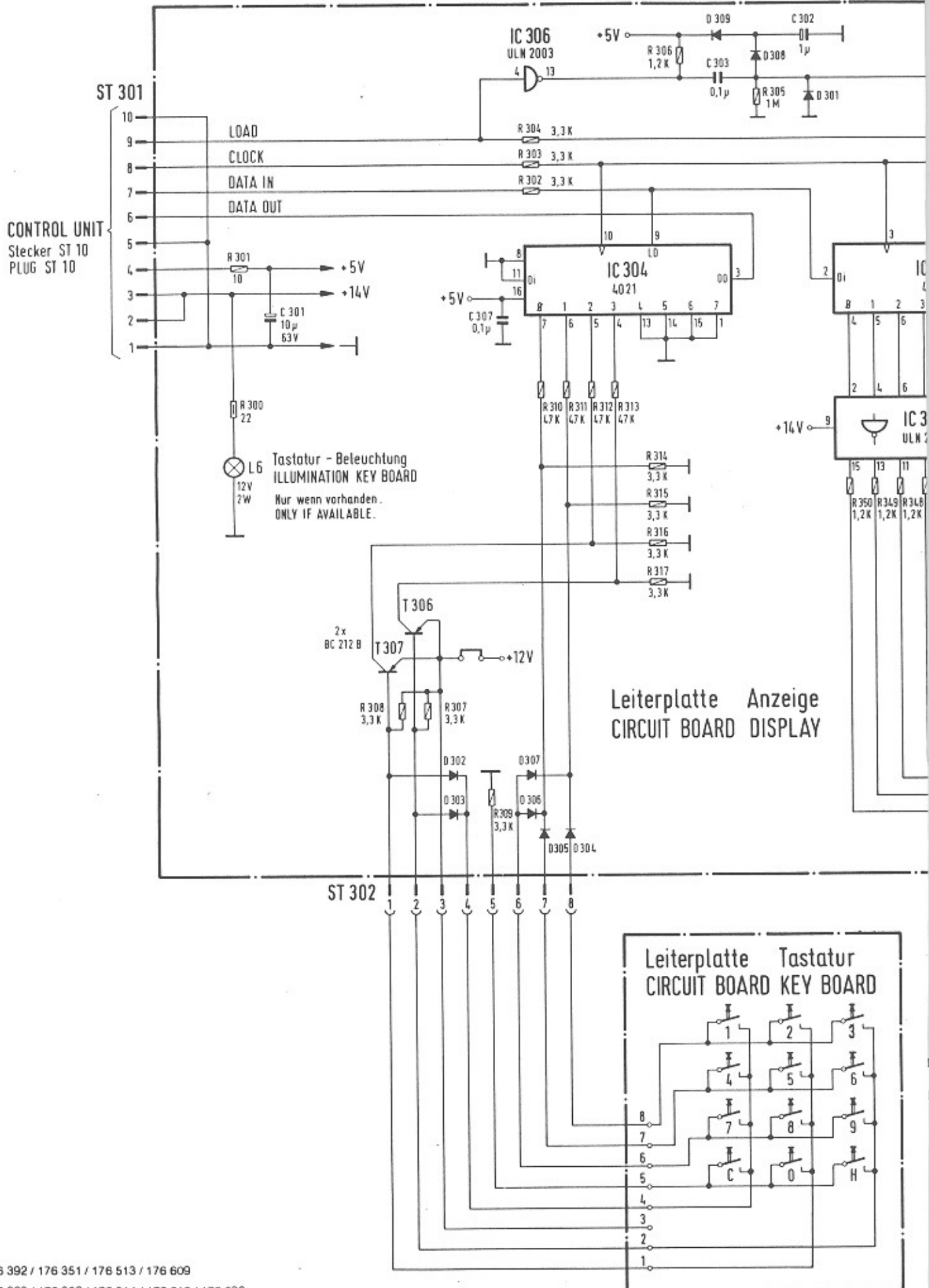
The circuit with diodes D 302 – D 307 and transistors T 306, T 307 codes the keyboard matrix to a 4-bit signal combination.

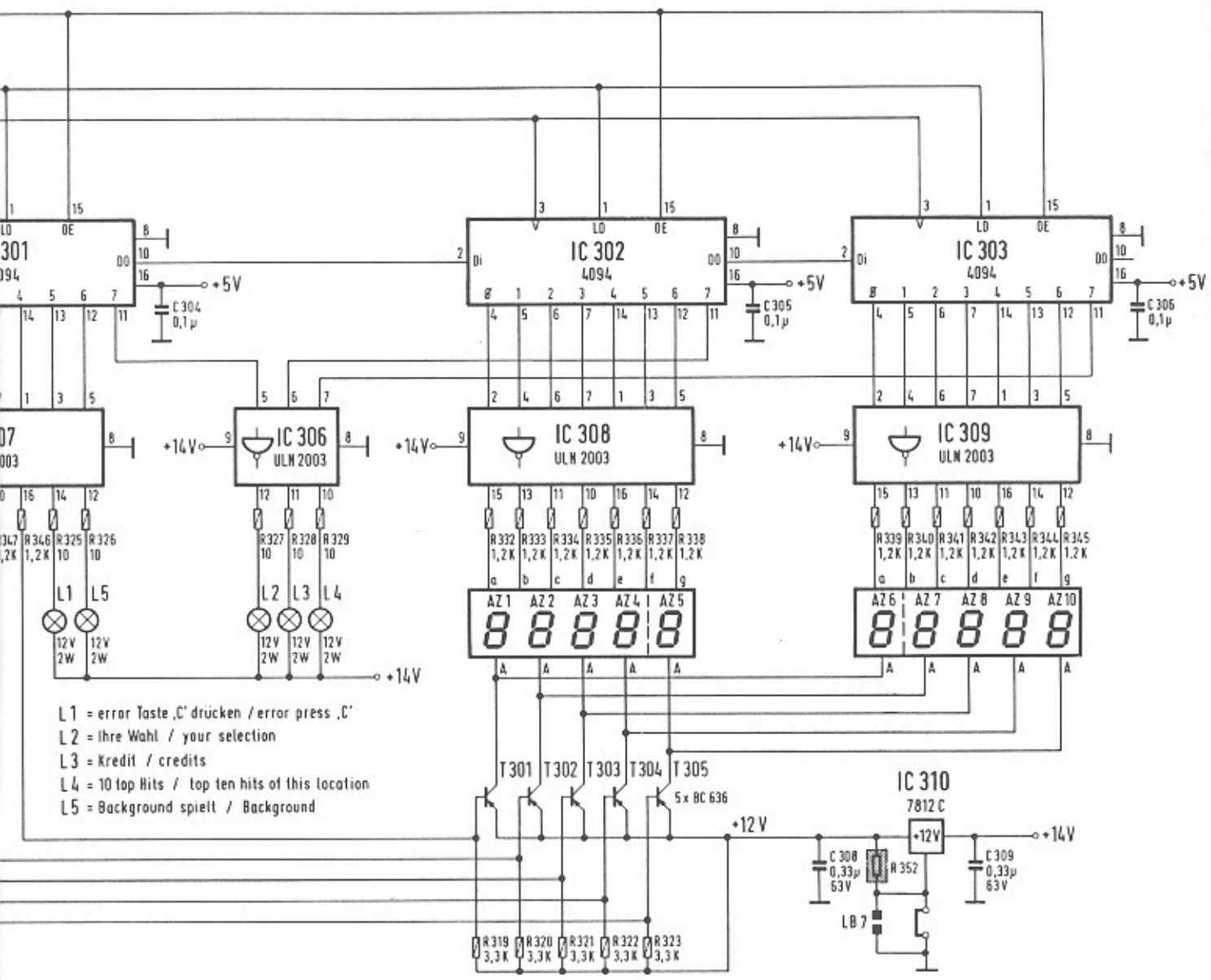
SPARE PARTS LIST



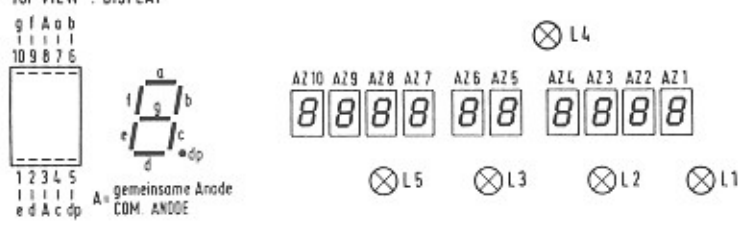
SPARE PARTS LIST

POS.	PART-No.	DESCRIPTION	DATA	QTY
	173 664	<u>CB-DISPLAY CD. ASSY</u>		1
ST 302	225 663	PIN PANEL	8 prongs	90° 1
ST 301	225 664	PIN PANEL	10 prongs	90° 1
AZ 1-10	231 416	DISPLAY	TD SL 5150	10
	176 413	TUBUS		1
	171 629	HOLDER		4
IC 310	221 573	IC-VOLTAGE	12 V 1 A	1
IC301-303	221 771	IC-CMOS	HEF 4094 B	3
IC 304	221 763	IC-CMOS	HEF 4021 B	1
IC306-309	221 497	IC-LINEAR	ULN 2003 A	4
D 301-309	221 114	SI-DIODE	1 N 4148	9
T301-305	231 240	SI-TRANSISTOR	BC 636 F	5
T306, 307	221 283	SI-TRANSISTOR	BC 212 B	2
C303-307	220 334	MKT-CAPACITOR	0,1 µF	63 V 5
C308,309	220 332	MKT-CAPACITOR	0,33 µF	63 V 2
C 302	220 249	LYTIC	1 µF	63 V 1
C 301	220 162	LYTIC	10 µF	63 V 1
R 301	221 611	RESISTOR	10 Ohm	1/4 W 1
R306, 332-350	221 627	RESISTOR	1,2 KOhm	1/4 W 20
R302-304, 307-309, 314-317, 354				>
R310-313	221 033	RESISTOR	3,3 KOhm	1/4 W 16
R 305	221 038	RESISTOR	47 KOhm	1/4 W 4
R325-329	221 009	RESISTOR	1 MOhm	1/4 W 1
	231 366	MET.-RESISTOR	10 Ohm	1/4 W 5
L 1-5	225 533	LAMP SOCKET		5
	226 056	LAMPS	12 V 2 W	5
	173 900	DISPLAY, ASSY	12-fach	1





Draufsicht: Display
TOP VIEW: DISPLAY



Draufsicht: Spannungsregler IC 310
TOP VIEW: VOLTAGE REGULATOR IC 310



von unten gesehen
BOTTOM VIEW



- |— ZENER-DIODE
- |— 1N4148
- |— 1/2 W
- |— 1/3 W

gerasterte Bauteile sind nicht eingebaut!
DOTTED COMPONENTS ARE NOT INSTALLED!

ÄNDERUNGEN IM SINNE DES TECHN. FORTSCHRITTES VORBEHALTEN,
JEDOCH KEINE NACHRÜSTPFLICHT!
SUBJECT TO TECHNICAL MODIFICATION WITHOUT OBLIGATION
TO MODIFY EQUIPMENT ALREADY DELIVERED!

NSM MUSIKAUTOMATEN **ES V-CD** TECHNOLOGY
PHONOGRAPHS

Schaltbild Anzeige / Tastatur
WIRING DIAGRAM DISPLAY / KEY BOARD

Dat.	10.04.92	Gez.	Braun	Bearb.	Weyd	Gepr.	Manz
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