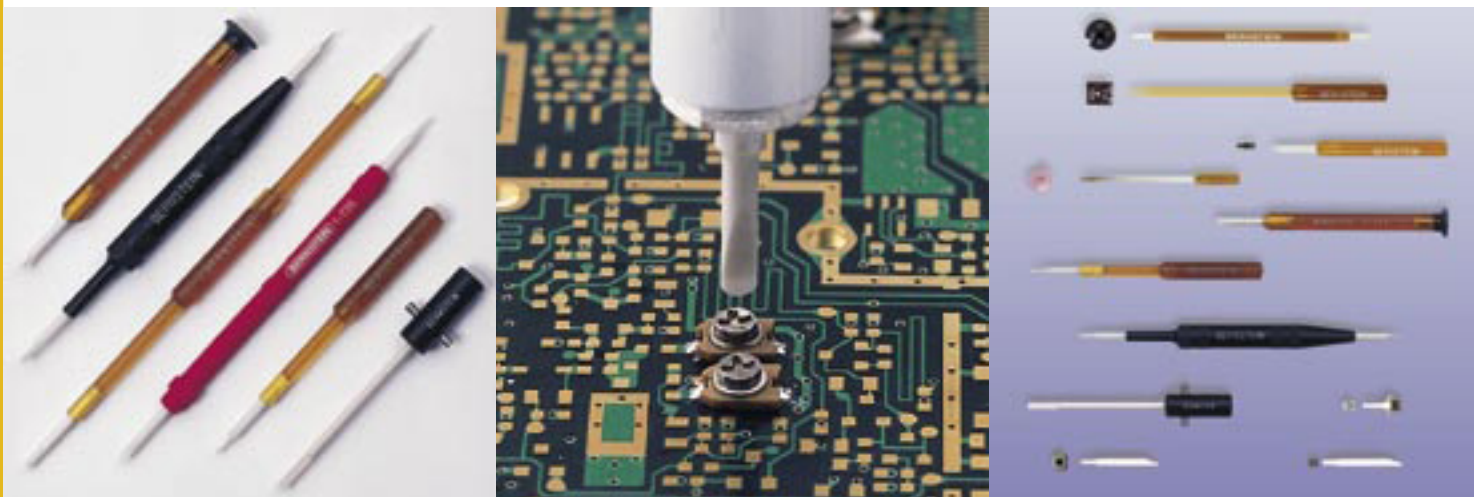


ADJUSTING AND SETTING IN ELECTRONICS

A large number of electrical and electronic appliances or assemblies must be adjusted and set after the production process. Even when servicing, when fitting new components or when electrical values have altered owing to age, adjustment is usually necessary in order to restore the optimum functioning of the appliance. Although this should be reduced to a minimum by design measures and technological processes, in order to save costs and to attain a high degree of reliability, adjustment cannot be eliminated completely.



BERNSTEIN use a high-quality, fully insulated plastic material with the trademark "BERNSTEINIT", which is hard and flexible, for adjusting screwdrivers and keys. A material made from hard special plastic is available to satisfy the stringent requirements with regard to torsional strength. BERNSTEIN supply adjusting screwdrivers and keys with inserts made from resilient hard bronze for cores which are especially difficult to remove. This material is true to size even with the smallest dimensions. Since it is only used as small cutting tips in conjunction with BERNSTEINIT material, detuning by the resilient hard bronze is virtually eliminated.

For the industrial adjustment and the work with electrostatically endangered components, BERNSTEIN manufacture a variety of high-grade ceramic bits as well as tweezers with ceramic tips. These ceramic bits made from zirconium oxide (ZrO_2) meet highest standards due to their excellent mechanical, thermic and electrical features. The hardness and breaking strength of the material allows the fabrication and use even in smallest dimensions with greatest possible resistance to wear.

BERNSTEIN ceramic bits are extremely resistant and merely show a low thermal conductivity. The blades are non-magnetic, anti-static and electrically insulating, the electric resistance is approx. $10^{10} \Omega/cm$.

In addition to the types indicated in the catalogue, on request BERNSTEIN also manufacture special wanted dimensions or forms also in smaller quantities.

TRIMMING WITH CERAMIC

Antistatic – antimagnetic – electrically insulating

1-750 **BERNSTEIN** Ceramic adjusting screwdrivers set 13-pieces in a box with hinged lid

Contents: double-ended handle 1-735 and 12 ceramic bits

Weight: 90 g

Measurements of the ceramic bits in box 1-750

No.	Blade length mm	Blade tip mm	Weight g
1-751	32	0.90 x 0.30	1
1-752	32	1.30 x 0.30	1
1-753	32	1.50 x 0.30	1
1-754	32	1.80 x 0.30	1
1-755	32	1.95 x 0.35	1
1-756	32	2.50 x 0.70	1
1-757	32	3.00 x 0.30	1
1-761	32	1.95 AF	1
1-762	32	2.45 AF	1
1-765	32	size 00	1
1-766	32	size 0	1
1-767	32	2.40 x 0.80	1

Measurements of further ceramic bits

1-758	32	3.00 x 0.70	1
1-763	32	2.60 AF	1
1-764	32	size 000	1
1-773	32	0.70 x 1.40	1
1-774	32	3.00 x 1.00	1
1-775	32	1.20 x 1.20	1
1-776	32	1.30 x 0.40	1

Interchangeable blades made from special hard plastic

1-738	32	1.5 x 0.5	1
1-739	32	3.0 x 0.5	1

1-725 **Adjusting screwdriver handle** for interchangeable blades, made from BERNSTEINIT with swivel top, for 3 mm Ø blades 5

1-735 **Adjusting screwdriver handle** for interchangeable blades, double-ended, for 3 mm Ø blades 6

ADJUSTING SCREWDRIVERS

with blades from ceramic and conductive handle, non insulating, with centre top

No.	Overall length mm	Blade tip mm	Weight g
1-851	110	0.90 x 0.30	10
1-852	110	1.30 x 0.30	10
1-853	110	1.50 x 0.30	10
1-854	110	1.80 x 0.30	10
1-855	110	1.95 x 0.35	10
1-856	110	2.50 x 0.70	10
1-857	110	3.00 x 0.30	10
1-858	110	3.00 x 0.70	10
1-861	110	1.95 AF	10
1-862	110	2.45 AF	10
1-863	110	2.60 AF	10
1-864	110	size 000	10
1-865	110	size 00	10
1-866	110	size 0	10
1-867	110	2.40 x 0.80	10
1-873	110	0.70 x 1.40	10
1-874	110	3.00 x 1.00	10
1-875	110	1.20 x 1.20	10
1-876	110	1.30 x 0.40	10

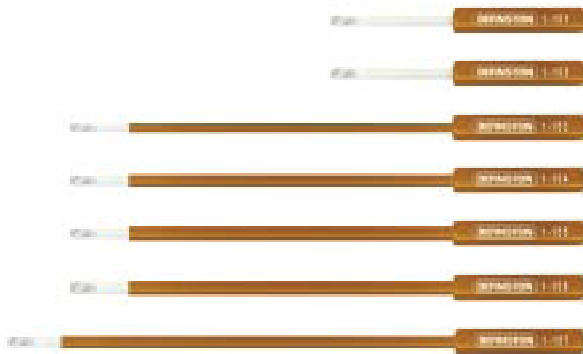


ADJUSTING SCREWDRIVERS

For all adjusting work which requires a ground blade

Adjusting screwdrivers with blade-tip made from special hard plastic

Material: BERNSTEINIT with insert made from special plastic (German Federal Registered Pattern)
The BERNSTEINIT blade makes the screwdriver flexible, and the hard special plastic insert at the tip gives the blade exceptional torsional strength.



No.	overall length mm	blade length mm	blade Ø mm	blade width mm	weight g
1-151	85	40	3.0	3.0	3
1-152	85	40	4.0	4.0	3
1-153	175	130	3.0	2.0	4
1-154	175	130	4.0	3.0	5
1-155	175	130	5.0	3.5	6
1-156	175	130	5.0	4.0	6
1-157	225	180	4.0	3.0	6



1-150 **BERNSTEIN** **Adjusting screwdrivers**
7-piece set, as described above, clearly arranged in a plastic case
Weight: 75 g

Adjusting screwdrivers with metal inserts made from resilient hard bronze

For extremely firm cores or extremely small dimensions

Material: Handle made from BERNSTEINIT, blades made from special plastic with bronze tips



No.	overall length mm	blade length mm	blade Ø mm	bronze insert mm	weight g
1-301	200	155	2.7	1.4 x 0.5	4
1-302	200	155	2.7	2.0 x 0.5	4
1-303	200	155	2.7	2.5 x 0.5	4
1-304	200	155	2.7	1.7 x 0.7	4
1-305	125	80	2.4	1.1 x 0.5	3
1-306	125	80	2.4	1.7 x 0.7	3
1-307	125	80	2.4	2.0 x 0.5	3



1-300 **BERNSTEIN** **Adjusting screwdrivers,**
7-piece set, as described above, clearly arranged in a plastic case
Weight: 70 g

1-180 **BERNSTEIN** **Adjusting tools**
7-piece set in a plastic case
Weight: 70 g



No.	Description of individual tools
	Adjusting screwdrivers made from BERNSTEINIT with hard special plastic insert
1-151	Overall length 85 mm, blade 40 x 3.0 mm
1-152	Overall length 85 mm, blade 40 x 4.0 mm
1-153	Overall length 175 mm, blade 130 x 2.0 mm
1-155	Overall length 175 mm, blade 130 x 3.5 mm
1-181	Double-ended adjusting key made from BERNSTEINIT with hard special plastic inserts, overall length 180 mm, one end hexagonal 1.85 mm A/F, other end square 1.5 mm A/F
1-182	Double-ended adjusting key made from BERNSTEINIT with hard special plastic inserts, overall length 180 mm, one end hexagonal 2.6 mm A/F, other end square 3.0 mm A/F
1-306	Adjusting screwdriver made from special plastic, overall length 125 mm, blade 80 x 2.4 mm, with bronze insert 1.7 x 0.7 mm

ADJUSTING TOOL SETS

1-250 **BERNSTEIN** Special tools and adjusting tools 15-piece set in a leather case Weight: 175 g

No.	Description of individual tools
1-151	Adjusting screwdriver made from BERNSTEINIT, with blade made from hard special plastic, overall length 85 mm, blade 40 x 3.0 mm
1-153	Adjusting screwdriver made from BERNSTEINIT, with hard special plastic insert, overall length 175 mm, blade 130 x 2.0 mm
1-154	Adjusting screwdriver made from BERNSTEINIT, with hard special plastic insert, overall length 175 mm, blade 130 x 3.0 mm
1-181	Double-ended adjusting key made from BERNSTEINIT, with hard special plastic inserts, overall length 180 mm, one end hexagonal 1.85 mm A/F, other end square 1.5 mm A/F
1-182	Double-ended adjusting key made from BERNSTEINIT, with hard special plastic inserts, overall length 180 mm, one end hexagonal 2.6 mm A/F, other end square 3.0 mm A/F
1-305	Adjusting screwdriver made from special plastic, overall length 125 mm, blade 80 x 2.5 mm, with bronze insert 1.1 x 0.5 mm
1-307	Adjusting screwdriver as above, with bronze insert 2.0 x 0.5 mm
1-978	Engineer's mirror with extension handle, made entirely from BERNSTEINIT, handle ground as 6 mm screwdriver
2-126	Desoldering lever, slotted at one end, nickel-plated and insulated, with plastic handle
2-135	Core remover, for easy removal of damaged cores
2-265	Pair of test prods, red and black, extremely slim, pointed and flexible, 155 mm, blade made from 1 mm steel wire, with banana plug connection, fully insulated
4-301	Miniature screwdriver, overall length 85 mm, blade 40 x 1.8 mm
4-311	Screwdriver for grub screws, overall length 140 mm



1-200 **BERNSTEIN** Special tools and adjusting tools 12-piece set in an imitation leather case Weight: 160 g

No.	Description of individual tools
1-153	Adjusting screwdriver made from BERNSTEINIT, with hard special plastic insert, overall length 175 mm, blade 130 x 2.0 mm
1-181	Double-ended adjusting key made from BERNSTEINIT, with hard special plastic inserts, overall length 180 mm, one end hexagonal 1.85 mm A/F, other end square 1.5 mm A/F
1-182	Double-ended adjusting key made from BERNSTEINIT, with hard special plastic inserts, overall length 180 mm, one end hexagonal 2.6 mm A/F, other end square 3.0 mm A/F
1-301	Adjusting screwdriver made from special plastic, overall length 200 mm, blade 155 x 2.7 mm, with bronze insert 1.4 x 0.5 mm
1-304	Adjusting screwdriver as above, bronze insert 1.7 x 0.7 mm
1-505	Slotted key made from special plastic, 120 x 3 mm Ø, 1 mm slot at both ends
1-978	Engineer's mirror with extension handle, made entirely from BERNSTEINIT, handle ground as screwdriver
2-265	Pair of test prods, red and black, extremely slim, pointed and flexible, 155 mm, blade made from 1 mm steel wire, with banana plug connection, fully insulated
4-301	Miniature screwdriver, overall length 85 mm, blade 40 x 1.8 mm
5-107	Steel tweezers with bent tips, 150 mm long
5-301	Special sheet-metal scissors, serrated, 110 mm long



SPECIAL TOOLS



No.	Description	Length	Weight
2-265	Test prods , extremely slim, pointed and flexible, blade made from 1 mm steel wire, with banana plug connection, fully insulated, available in red (2-265-1) and black (2-265-2)	155 mm	9 g
2-125	Desoldering lever for lifting fixed components when desoldering, ends at different angles (40°/70°), slotted at both ends, nickel-plated, insulated	125 mm	7 g
2-126	Desoldering lever , slotted at one end, nickel-plated, round, insulated shank and hexagonal plastic handle	115 mm	10 g
2-127	Tin knife with pointed, sharp blade, for cutting circuit paths and working printed circuit boards, round, insulated shank and hexagonal plastic handle	115 mm	14 g
2-128	Tin scraper with blade of sharp parting tool shape for scraping off excess solder and solder bridges, round, insulated shank and hexagonal plastic handle	115 mm	14 g
2-101	Tin knife with ceramic blade for working printed circuit boards, handle from conductive black plastic	105 mm	9 g
2-135	Core remover for easy removal of damaged cores in coils etc., flexible metal tip 1.5 x 0.5 x 30 mm, nickel-plated blade, BERNSTEINIT handle	175 mm	8 g
2-145	Screwdriver with guide sleeve for easy and accurate setting of spindle resistors and potentiometers with slotted axles up to 3.2 mm Ø, nickel-plated blade, plastic-handle	140 mm	12 g
2-151	Triangular scraper in brass tool holder, nickel-plated, triangular blade made from hollow ground special steel (80 mm long), insertable at both ends and adjustable in holder	90 mm	26 g
2-152	Tool holder , nickel-plated brass, with collets at both ends for holding tools from 0 to 3 mm Ø	110 mm	32 g
2-155	Claw-type gripper , with 3 hardened wire claws, max. 12 mm opening, with clip	120 mm	49 g
2-157	Flexible claw-type grip with 4 sprung claws, to reach inaccessible areas with free play, nickel-plated, long version	600 mm	75 g
2-161	Magnetic bar with double ball-and-socket joint, slewable into any position, diameter of bar 8 mm	215 mm	34 g
2-163	Brass contact cleaner brush , Ø 4 mm, with rotary mechanism, plastic casing	120 mm	10 g
2-164	Replacement brass brush for 2-163	40 mm	1 g
2-165	Contact cleaner , brush-type, with wire bristles, nickel-plated	35 mm	2 g
2-166	Glass fibre contact cleaner brush with rotary mechanism, plastic casing	115 mm	10 g
2-167/10	Replacement glass fibre for 2-166, 10 pieces	40 mm	12 g
2-168	Glass fibre contact cleaner brush , Ø 2 mm	135 mm	9 g
2-169	Replacement glass fibre for 2-168	110 mm	1 g

SPECIAL TOOLS

No.	Description	Length	Weight	
1-909	Engineer's mirror , magnifying, concave mirror 23 mm Ø, with extension handle, made entirely from BERNSTEINIT, fully insulated version	145/260 mm	9 g	
1-978	Engineer's mirror as above, but extension handle with ground 6 mm screwdriver blade, made from BERNSTEINIT	145/260 mm	9 g	
2-275	Repair mirror , stainless, magnifying, concave mirror 21 mm Ø, with BERNSTEINIT handle	180 mm	7 g	
2-281	Double-jointed mirror , slewable into any position, nickel-plated, with insulated handle and clip, mirror 30 mm Ø	195 mm	33 g	
2-282	Telescopic mirror with double joint, slewable into any position, nickel-plated, pocket clip, mirror 23 mm Ø	150-460 mm	21 g	
2-285	Inspection mirror with illuminated mirror area and double joint, slewable into any position, nickel-plated, pocket clip, for 2 batteries type Mignon 1.5 V	200 mm	43 g	
2-291	Plastic magnifying glass with biconvex lens, 5 x magnification, 30 mm Ø, short, practical shape	70 mm	6 g	
2-293	Hand magnifier , biconvex PMX-light-weight lens with antistatic coating, 65 mm Ø, 3.0 x magnification	180 mm	52 g	
2-295	Hand magnifier, illuminated with aspherical PMX-light-weight lens, 35 mm Ø, 7x magnification, 28.0 Dpt., with 2 batteries type Mignon 1.5 V	125 mm	80 g	
2-297	Magnifying glasses Max Detail for easy and precise viewing, 2 x magnification (galilean system), large field of view: about Ø 15 cm, with 40 cm distance, large working distance: 40 cm, magnifying glasses with +/- 3 diopter adjustment, independently adjustable		52 g	
2-655	Pocket inspection lamp MITILITE LASER SPOT with bent fibre optic adaptor for close inspection of small, tight, hard-to-see areas. The most powerful pocket lite with pre-focused reflector, clip and magnet, handy, watertight and unbreakable incl. 2 Alkaline-batteries ea. 1.5 V	125 mm	52 g	
2-655-80	Pocket inspection lamp as discribed above, with additional straight fibre optic adapter, 80 mm long			

SPECIAL TOOLS

No.	Description	Length	Weight
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2-130	Set of spring hooks , 6-piece, nickel-plated, for gripping and straightening, inserting and removing tension and compression springs of various kinds, hook screwing onto handle, in a plastic case	hook with handle 205 mm	42 g
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2-131	Spring hook , nickel-plated and insulated, for inserting and removing tension and compression springs	205 mm	10 g
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2-132	Spring hook , nickel-plated and insulated, for inserting and removing tension springs	175 mm	8 g
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2-133	Spring hook with ring , nickel-plated, for inserting and removing strong tension springs	195 mm	13 g
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2-306	Extractor with self-centring extractor hook to remove small bearings and similar parts. Span 60 mm, grip depth 50 mm	105 mm	205 g
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2-601	IC tweezers for gripping, inserting and removing, especially suitable for narrow components, nickel-plated	125 mm	20 g
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2-601-13	IC-tweezers with ESD-coating description as before	125 mm	22 g
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2-605	PLCC-puller for lifting out plug-in PLCC's	135 mm	6 g
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2-620	PLCC extractor for easy removal of plug-in PLCC's	100 mm	22 g
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DEMAGNETIZING THROTTLES

Indispensable for the service

2-305 **BERNSTEIN** Demagnetizing throttle

complete with 2 m connecting cable and Euro-flat plug

The device removes unwanted magnetism from sound heads, which can cause disturbing extraneous noise and losses of high-frequency sound.

Also suitable for erasing magnetic tapes.

Technical data: Dimensions: 105 mm x 40 mm Ø
Voltage: 220 V = 50 Hz
Low voltage on request

Weight: 340 g



2-505 **BERNSTEIN** Demagnetizing throttle

for **colour televisions** and **colour monitors** complete with 4 m connecting cable and Euro-flat plug

When servicing colour televisions, the most important requirement for setting the purity of colour and convergence accurately is the demagnetisation of the colour television tube.

There are colour televisions and colour monitors which are so strongly magnetized that the intern demagnetisation is not successful enough. For these cases the demagnetizing throttle 2-505 is used, which neutralizes even the strongest magnetic fields. An installed thermo-element interrupts as protection of overheating after approx. 1.5 min.

Technical data: Diameter: 350 mm
Voltage: 220 V
Current consumption: approx. 2 A
Thermo-element

Weight: approx. 1.000 g



INSERTION TOOLS

2-701 **Krone Insertion tool with sensor**, wire connection, without soldering, screwing and stripping, cutting the remaining length, all in one operation

185 mm 63 g



2-702 **Insertion tool** for system 71 to connect cable and switch wire

165 mm 40 g



Test headphone

2-751 **Test headphone**

Usable for

- the check of switching circuitry
- the connection to the line without drawing loop current (monitor)
- verification the presence of DC current and permission to follow a tone on different pairs

Technical data:

1 x 600 ohm, changeable from 600 up to 10.000 ohm, with fine adjuster, cable length including test prods 1450 mm, maximum load 2 W

Weight: 240 g

