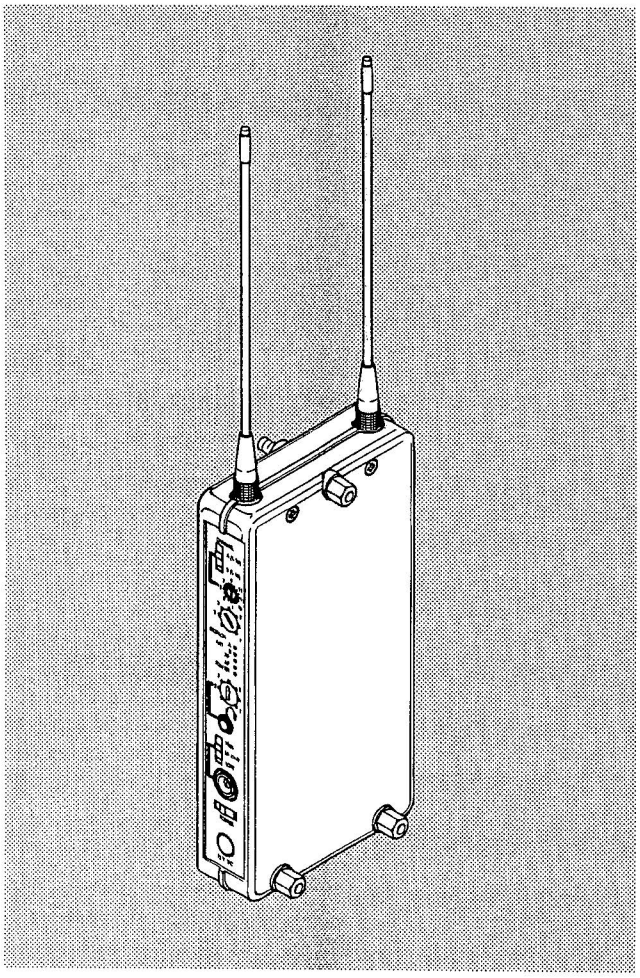
SENNHEISER
Service



EK 4015 UHF

KURZBESCHREIBUNG

Der Empfänger EK 4015 UHF ermöglicht die sichere Tonübertragung auch unter ungünstigen Empfangsbedingungen. Zusammen mit einem passenden Sender wie dem SK 50, dem SK 250 oder dem SKM 5000 läßt sich eine hochwertige Übertragungsstrecke aufbauen. Die Besonderheit des Empfängers ist sein True-Diversity-Betrieb, mit dem wirkungsvoll Feldstärkelöcher überbrückt werden können. Besonders Störungen, die durch Reflexionen und Auslöschungen schon bei geringer Übertragungsentfernung vorkommen, sind so wirkungsvoll unterbunden.

MERKMALE

- PLL-Tuner mit 32 schaltbaren Frequenzen
- Stabiles Leichtmetallgehäuse und hoch-wertige LEMO-Steckverbindungen gewährleisten einen störungsfreien Betrieb auch unter rauhen Bedingungen
- Praxisgerechte Halterung zur Befestigung direkt am Akku des Camcorders.
- LED-Anzeigen für alle wichtigen Betriebsfunktionen
- regelbarer Kopfhörerausgang
- extremer Geräuschspannungsabstand durch das Sennheiser-Rauschunterdrückungssystem HiDyn*plus*
- Wahlweise Speisung aus einem Camcorder oder über externe Stromquellen mit automatischer Umschaltung zwischen 4,5 und 12 Volt
- Trafosymmetrischer NF-Ausgang

BRIEF DESCRIPTION

The EK 4015 UHF receiver allows safe transmission even under unfavorable conditions. Combined with a suitable transmitter such as the SK 50, the SK 250 or the SKM 5000 a high-quality transmission path can be set up. The special feature of the EK 4015 is its „true diversity" operation mode which allows to efficiently eliminate so-called „field strength gaps", thus especially avoiding interferences due to reflections and cancellations which are possible already with short transmission distances.

FEATURES

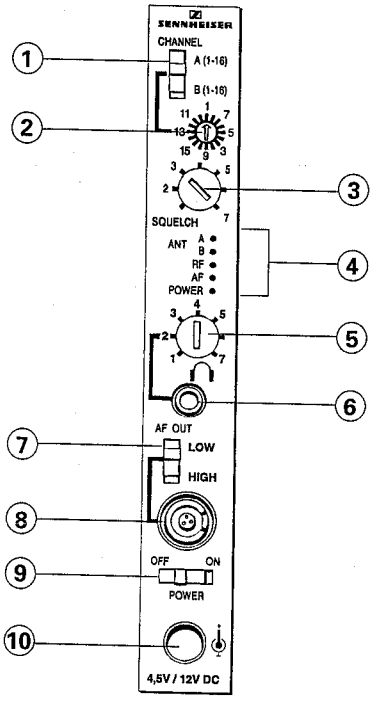
- PLL tuner with 32 switchable frequencies
- Solid metal housing and high-quality LEMO plugs ensure an interference-free operation even under unfavorable conditions
- Mounting plate for fastening on the storage battery of the camcorder
- LED displays for all important functions
- Adjustable headphone output
- Very good signal-to-noise ratio due to the Sennheiser noise suppression system HiDyn*plus*
- Powering via a camcorder or via external voltage sources, automatic switching between 4.5 V and 12 V
- Transformer balanced AF output

INHALTSVERZEICHNIS

CONTENTS

1. BEDIENELEMENTE

1. OPERATING ELEMENTS



1 KANALBEREICHSSCHALTER
es kann zwischen zwei Kanalbereichen (A und B) gewählt werden; in beiden Bereichen stehen je 16 Kanäle zur Verfügung, die mit dem Kanalwahlschalter **2** ausgewählt werden

2 KANALWAHLSCHALTER
16 Kanäle stehen je Kanalbereich A oder B zur Verfügung

3 RAUSCHSPERRE EINSTELLEN
bei ausgeschaltetem Sender gibt der Empfänger kein NF-Signal ab; von 0 - >20 µV einstellbar

4 LED-ANZEIGEFELD
LED´s "ANT A" / LED "ANT B" zeigen den auf den NF-Ausgang geschalteten Diversity-Kanal an.

LED "RF" leuchtet auf: HF-Spannung > 10 µV

LED "AF" leuchtet auf: Frequenzhub > 25 kHz

LED "POWER" leuchtet auf: EK 4015 ist betriebsbereit

5 LAUTSTÄRKEREGLER FÜR KOPFHÖRER

6 KOPFHÖRERANSCHLUSSBUCHSE
für 3,5 mm Stereo-Klinkenstecker,
Impedanz ≥ 50 Ω

7 NF-AUSGANGSSCHALTER
schaltbarer NF-Ausgang,
"HIGH" - 3,2 V an 10 kΩ,
"LOW" - 30 mV an 600 Ω

8 NF-AUSGANGSBUCHSE
LEMO spezial 3 Pin, mit trafo-symmetrischen Ausgang

9 BETRIEBSSCHALTER

10 BUCHSE FÜR STROMVERSORGUNG
Betriebsspannung 4,5 V oder 12 V

1 CHANNEL RANGE SWITCH
Two channel ranges (A and B) can be selected; in both ranges resp. 16 channels can be selected with the channel range switch 2.

2 CHANNEL SELECTOR SWITCH
Resp. 16 channels are available in range A and B.

3 ADJUST SQUELCH
If the transmitter is switched off the receiver does not emit any AF-signal; adjustable from 0 - >20 µV

4 LED-INDICATION
The LEDs "ANT A" / "ANT B" indicate which diversity channel is switched on the AF-output

LED "RF" lights up: RF-voltage > 10 µV

LED "AF" lights up: frequency deviation > 25 kHz

LED "POWER" lights up: EK 4015 is operable

5 VOLUME CONTROL FOR HEADPHONES

6 HEADPHONE SOCKET
For 3.5 mm stereo jack plug,
impedance ≥ 50 Ω

7 AF-OUTPUT SWITCH
Switchable AF-output,
"HIGH" - 3,2 V at 10 kΩ,
"LOW" - 30 mV at 600 Ω

8 AF-OUTPUT SOCKET
Special 3-pin LEMO socket, with transformer-balanced output

9 OPERATING SWITCH

10 SOCKET FOR POWER SUPPLY
Service voltage 4.5 or 12 V

2. TECHNISCHE DATEN

HF - Eingang, Lemo - Buchse	50 Ω, unsymmetrisch
Empfangsfrequenzbereich	450 - 960 MHz
umschaltbare Frequenzen	32
Schaltbandbreite	24 MHz
Kanalraster, minimal	5 kHz
1. Oszillatorfrequenz	125 MHz unterhalb / oberhalb der Empfangsfrequenz
2. Oszillatorfrequenz	114,30 MHz
1. Zwischenfrequenz	125 MHz
2. Zwischenfrequenz	10,7 MHz
Breitbandfrequenzmodulation	± 40 kHz Nennhub / ± 56 kHz Spitzenhub
Begrenzungseinsatz	≤ 1,5 µV
Rauschunterdrückungssystem	HiDyn*plus*
Deemphasis	50 µs
Max. Störspannungsabstand bei Spitzenhub und > 50 µV HF-Eingangsspannung	≥ 113 dB (DIN 45500, Kurve A) ≥ 98 dB (CCIR 468, Spitze)
Nachbarkanalselektion (in ± 400 kHz-Abstand)	≥ 65 dB
Spiegelselektion	≥ 55 dB
Nebenempfangsstellen	≥ 70 dB
Intermodulationsabstand bezogen auf 50 dB S/N, Trägerabstand 400 / 800 kHz (2-Sender-Methode)	≥ 63 dB
NF - Ausgang 1, Lemo - Buchse	symmetrisch erdfrei, Innenwiderstand 100 Ω für Mikrofonpegel, umschaltbar auf Line, Innenwiderstand 10 kΩ
NF - Ausgang 2, 3,5 mm Klinke	unsymmetrisch einstellbar, max. 50 mW / 10 Ω
NF - Ausgangsspannung bei > 1,5 µV HF-Eingangsspannung, bezogen, auf Spitzenhub am Ausgang 1	30 mV / 600 Ω oder 3,2 V / 10 kΩ, umschaltbar
Übertragungsbereich	60 Hz - 20 kHz (- 3 dB)
Klirrfaktor (40 KHz Hub, 1 kHz, 100 µV HF-Eingangsspannung)	< 1 %
Rauschsperre	0 bis ca. >20 µV, einstellbar
Stromversorgung, Fremdspeisebuchse	2,8 bis 5 VDC, 210 mA / 8 bis 15 VDC, < 120 mA
Maße	147 x 75 x 23 mm
Gewicht	ca. 250 g
BZT - Zulassungsnummer	A 108264D RF (im Bereich 470 - 790 MHz)
Lieferumfang	1 Empfänger EK 4015 UHF 1 LEMO / XLR-Adapterkabel mit einstellbarem Dämpfungsglied 0 bis - 40 dB. 1 Stromversorgungsleitung, eine Seite mit Winkelstecker, andere Seite offen 2 Antennen, aufschraubbar 1 Kabelbinder-Set

Änderungen vorbehalten

NOTIZEN:

2. TECHNICAL DATA

RF input, Lemo socket	50 Ω, floating
Frequency range	450 - 960 MHz
Switchable frequencies	32
Switching bandwidth	24 MHz
Channel grid, minimum	5 kHz
1. oscillator frequency	125 MHz below / above receiving frequency
2. oscillator frequency	114.30 MHz
1. intermediate frequency	125 MHz
2. intermediate frequency	10.7 MHz
Broadband frequency modulation	± 40 kHz nominal deviation / ± 56 kHz peak deviation
Limiter threshold	≤ 1,5 µV
Noise suppression system	HiDyn*plus*
Deemphasis	50 µsec.
Max. signal-to-noise ratio at peak deviation and RF input voltage > 50 µV	≥ 113 dB (DIN 45500, A-weighted) ≥ 98 dB (CCIR 468, peak)
Adjacent channel rejection (± 400 kHz)	≥ 65 dB
Image rejection	≥ 55 dB
Spurious rejection	≥ 70 dB
Intermodulationratio referring to 50 dB S / N, carrier spacing 400 / 800 kHz (2 transmitter method)	≥ 63 dB
AF output 1, Lemo socket	balanced, floating, internal resistance 100 Ω for microphone level, switchable for line internal resistance 10 kΩ unbalanced adjustable, max. 50 mW 10 Ω
AF output 2, 3.5 mm jack	
AF output voltage at > 1,5 µV RF input voltage, referring to peak deviation at output 1	30 mV / 600 Ω or 3.2 V / 10 kΩ, switchable
Frequency range	60 Hz - 20 kHz (- 3 dB)
THD at 40 kHz deviation, 1 kHz and 100 µV RF input voltage	< 1 %
Squelch	0 - approx. >20 µV, adjustable
Power supply, external voltage socket	2.8 - 5 V, 210 mA / 8 - 15 V, < 120 mA
Dimensions	147 x 75 x 23 mm
Weight	approx. 250 g

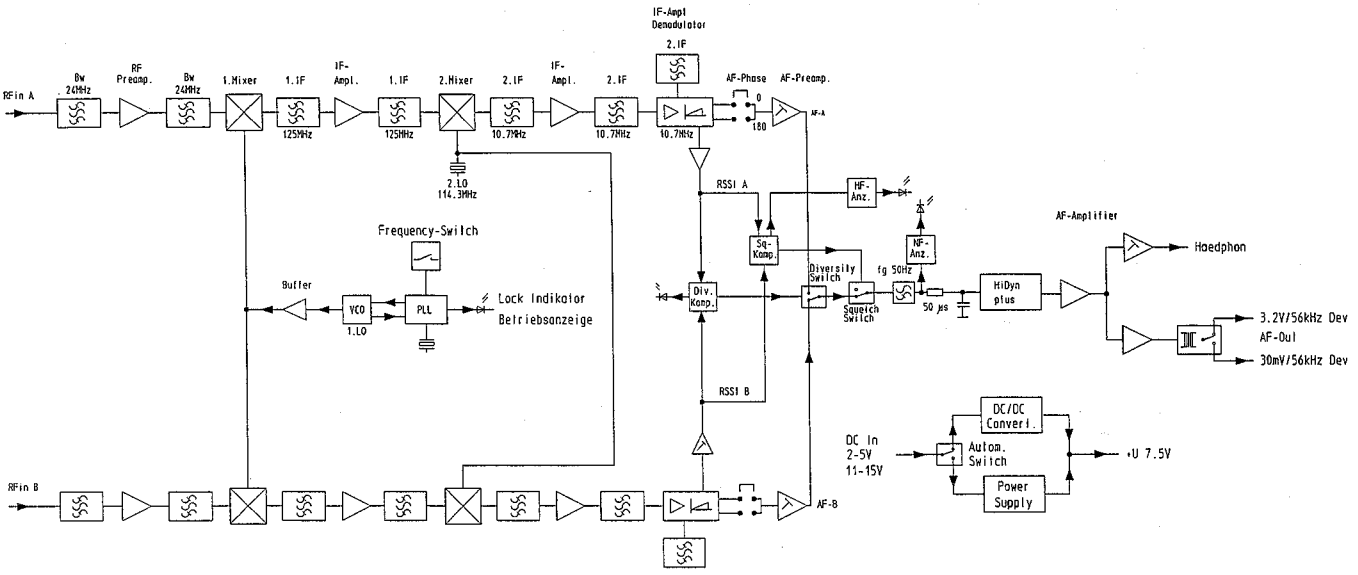
Delivery includes

1 EK 4015 UHF receiver
1 LEMO / XLR-adapter cable with adjustable attenuator (0 - -40 dB)
1 connecting cable with right angle plug and open wires
1 EZP 4015 mounting plate with screws
2 antennas, provided with threads
1 set of cable ties

Subject to alterations.

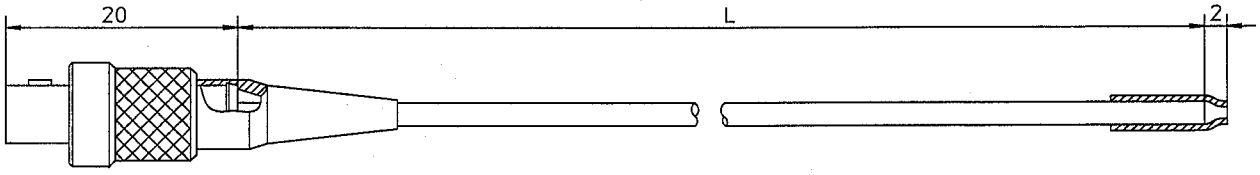
NOTES:

EK 4015 UHF, BLOCKSCHALTBILD
EK 4015 UHF, BLOCK DIAGRAM



EK 4015 UHF, ANTENNENLÄNGE
EK 4015 UHF, CALCULATING THE ANTENNA LENGTH

$$L\ (cm) = \frac{7500}{f\ (MHz)}$$



NOTIZEN:

NOTES:

4. SERVICE HINWEISE

4.1. ALLGEMEINES

Zur Reparatur und zum Abgleich des Empfängers EK 4015 UHF ist eine Adaption der professionellen Steckverbinder mittels Meßadapter an Standardmeßplätze erforderlich. Eine Überprüfung des Empfängers ist nur mit Hilfe der Meßadapter sinnvoll. Der Sennheiser Kundendienst bietet folgende Service-Hilfsmittel an:

– M-SK 50 AF	NF-Ausgangsadapter	Id. - Nr. 49048
– M-SK 50 RF	HF-Eingangsadapter	Id. - Nr. 49918
– Spezialschlüssel (Lemo)		Id. - Nr. 50607

4.2. FREQUENZBEREICHE

Der Diversity-Empfänger EK 4015 ist im UHF-Band von 450 - 960 MHz einsetzbar. Innerhalb dieses Frequenzbandes gibt es 4 Bestückungsvarianten.

Bereich 1: 450 - 582 MHz
Bereich 2: 558 - 702 MHz
Bereich 3: 678 - 838 MHz
Bereich 4: 814 - 960 MHz

Die Bestückungsvarianten sind in der Tabelle des Stromlaufplans (HF-Teil) dargestellt.

Innerhalb der Frequenzbereiche 1 - 4 wird der HF-Eingang auf eine Schaltbandbreite von 24 MHz abgeglichen.

4.3. LOCAL OSZILLATOR

Der Local Oszillator schwingt bei dem Diversity-Empfänger EK 4015 UHF je nach Frequenzbereich über oder unter der Empfangsfrequenz.

Bereich 1 und 2: fo = fe + 125 MHz
Bereich 3 und 4: fo = fe – 125 MHz

fo = Oszillatorfrequenz (Local Oszillator)
fe = Empfangsfrequenz

4.4. HIDYN

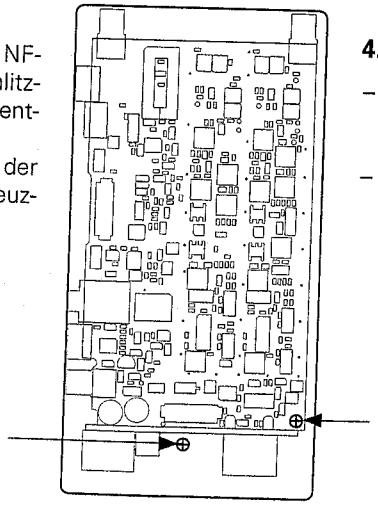
Der Empfänger EK 4015 UHF ist serienmäßig mit dem Rauschunterdrückungssystem HiDyn*plus* ausgerüstet. Das Gerät kann durch Bestücken von R377 und R384 auf 0 Ω und C319 auf 2,2 µF / 16 V auf HiDyn umgerüstet werden.

4.5. REPARATUR UND ABGLEICH

Zur Reparatur und zum Abgleich ist die Leiterplatte aus dem Gehäuse zu entnehmen (siehe 4.6. Demontage).

4.6. DEMONTAGE:

- Gehäuse öffnen; dazu Ringmutter der NF-Ausgangsbuchse (J305) und 4 Kreuzschlitzschrauben lösen. Rechte Gehäuseschale entnehmen.
- Leiterplatte entnehmen; dazu Ringmuttern der Antennenbuchsen (P101, P201) lösen. Kreuzschrauben (siehe Abbildung) lösen.



4. SERVICE HINTS

4.1. GENERAL

For repair and alignment of the receiver EK 4015 UHF the professional connectors have to be adapted to your standard test stations by means of test adapters. Checking the transmitters for correct working is only useful with the help of these adapters. Therefore, the Sennheiser Service Department is offering the following test equipment:

– M-SK 50 AF	AF-output adapter	Id. no. 49048
– M-SK 50 AF	AF-input adapter	Id. no. 49918
– Special tool (LEMO)		Id. no. 50607

4.2. FREQUENCY RANGES

The diversity receiver EK 4015 can be used within the UHF-band from 450 - 960 MHz. Within this frequency band there are four different assembly versions.

Range 1: 450 - 582 MHz
Range 2: 558 - 702 MHz
Range 3: 678 - 838 MHz
Range 4: 814 - 960 MHz

These assembly versions are given in the table of the circuit diagram (RF-section).

Within the frequency ranges 1 - 4 the RF-input is adjusted to a switching bandwidth of 24 MHz.

4.3. LOCAL OSCILLATOR

The local oscillator of the diversity receiver EK 4015 UHF resonates, according to the frequency range, above or below the receiver frequency.

Range 1 and 2: fo = fr + 125 MHz
Range 3 and 4: fo = fr – 125 MHz

fo = oscillator frequency (local oscillator)
fr = receiver frequency

4.4. HIDYN

The receiver EK 4015 is equiped with the standard noise suppression system HiDyn*plus*. The receiver is prepared to change the noise suppression system from HiDyn*plus* to HiDyn by equipping the receiver with R377 and R384 to 0 Ω and with C319 to 2.2 µF / 16 V.

4.5. REPAIR AND ALIGNMENT

For repair and alignment remove the circuit board from the housing (see 4.6. disassembly).

4.6. DISASSEMBLY

- Open the housing by loosening the nut of the AF-output socket (J305) and four Philips screws. Remove the right housing shell.
- Remove the circuit board by loosening the nuts of the antenna sockets (P101, P201). Loosen the Philips screws (see fig.).

4.7. VORBEREITUNGEN

- Netzgerät auf 12,0 V einstellen (Strombegrenzung 600 mA).
- Grundeinstellungen am Empfänger EK 4015 vornehmen:
  1. Squelch-Potentiometer R353 und R354 (falls vorhanden) auf Linksanschlag drehen.
  2. Lautstärke-Potentiometer R386 auf Linksanschlag drehen.
  3. NF-Verstärker-Trimmer R304 und R318 auf Mittelstellung drehen.
  4. Ein-/Ausschalter S301 in Position "OFF" bringen.
  5. NF-Ausgangsschalter S302 in Position "HIGH" bringen.
  6. Mittenfrequenz (f_{CF}) ermitteln.

$$f_{CF} = \frac{f_{min} + f_{max}}{2}$$

f_{CF} = Mittenfrequenz
f_{min} = niedrigste Empfangsfrequenz
f_{max} = höchste Empfangsfrequenz

Am Kanalwahlschalter S1 und S2 wird der Kanal gewählt, der der Mittenfrequenz (f_{CF}) am nächsten liegt.

- Netzgerät mit Empfänger EK 4015 UHF verbinden.
- Weiter wie in "Prüf- und Abgleichanleitung" beschrieben.

4.8. KANALFREQUENZÄNDERUNGEN

Im Falle einer gewünschten Kanalfrequenzänderung (typspezifisches Kanalraster und Schaltbandbreite beachten) sind im Sennheiser Kundendienst Austausch-PROM und Typenschild erhältlich (siehe 10. Ersatzteile). Dazu benötigt werden folgende Angaben:

- Gerätetyp (z.B. EK 4015 UHF)
- Seriennummer
- Kanalschalterstellungen mit Frequenzangabe

Nach Austausch des PROM ist der Empfänger nachzugleichen.

4.9. SMD (SURFACE MOUNTED DEVICES)

Die Leiterplatten des EK 4015 UHF sind weitgehend mit Chip-Elementen (SMD) bestückt. Sollte beim Hantieren mit den Baugruppen ein SMD mechanisch zerstört werden, ist es erforderlich, dieses Bauelement zu ersetzen.

SMD werden direkt auf die dafür vorgesehenen Lötflächen gelötet. Hierfür besitzen sie lötfähige Stirnkontaktierungen, die weitgehend hitzeunempfindlich sind.

Zum Auswechseln ist folgendes Werkzeug erforderlich: Neben einer Pinzette und einem normalen temperaturgeregelten Lötkolben (z. B. Weller mit 0,8 mm Flachkopflötspitze PT-H 7 oder 0,8 mm Langkopflötspitze PT-K 7) sollten noch ein absolut rückschlagfreies Absauggerät und 1,2 mm Entlötlitze vorhanden sein. Sinnvoll ist eine Arbeitslupe.

Die Lötzeit ist so kurz wie möglich zu halten, damit die Leiterbahnen nicht beschädigt werden. Beim Auslöten der Bauteile ist darauf zu achten, daß die Leiterbahnen nicht abgehoben werden. Danach ist die Auflagefläche der Bauteile von Lötresten zu säubern. Um mechanische Spannungen in den Bauteilen zu vermeiden, sollte man erst nach dem Erkalten der ersten Lötstelle die gegenüberliegende Seite anlöten.

Eine Wiederverwendung eines bereits ausgelöteten Chip-Bauelementes ist nicht zulässig. Dies gilt auch dann, wenn es offensichtlich fehlerfrei ist, da durch die mechanische Beanspruchung beim Ein- und Auslöten eine Beschädigung nicht ausgeschlossen werden kann.

Die SMD werden in Packeinheiten von je 50 Stück geliefert. Die Verpackungen müssen verwechslungssicher gekennzeichnet sein, da nur so eine Unterscheidung der Bauteile möglich ist.

4.7. PREPARATIONS

- Set power supply to 12.0 V (current limit 600 mA).
- Carry out fundamental settings on the receiver EK 4015:
  1. Turn squelch-potentiometer R353 and R354 (if existing) completely to the left .
  2. Turn volume potentiometer R386 completely to the left.
  3. Turn AF-amplifier resistor variable R304 and R318 to the neutral position.
  4. Switch ON/OFF-switch S301 to "ON".
  5. Switch AF-output switch S302 to "HIGH".
  6. Calculate center frequency (f_{CF}).

$$f_{CF} = \frac{f_{min} + f_{max}}{2}$$

f_{CF} = center frequency
f_{min} = minimum receiver frequency
f_{max} = maximum receiver frequency

Switch channel selector switch S1 and S2 to the channel lying nearest to the center frequency f_{CF}.

- Connect the power supply to the receiver EK 4015 UHF.
- Proceed as described in the test and alignment instructions.

4.8. CHANGING CHANNEL FREQUENCIES

Channel frequencies can easily be changed thanks to replaceable PROMs (observe typ. channel grid and switching bandwidth) and new type plates which are available from Sennheiser's Service Department (pls. see paragraph 10., "Spare parts"). Pls. state the following when ordering spare PROMs:

- Model (e.g. EK 4015 UHF)
- Serial number
- Channel switch position and frequency

Having replaced the PROM, you should realign the receiver.

4.9. SMD (SURFACE MOUNTED DEVICES)

The boards of the EK 4015 UHF are chiefly equipped with Surface Mounted Devices (SMD). Handle with care. Should one SMD be damaged replace defective component with new one.

SMDs must be soldered to the surface provided for this purpose. They feature solderable contacts which are insensitive to heat.

Tools required to replace SMDs: tweezers, temperature-controlled soldering iron (e.g. Weller with 0.8 mm flat headed soldering tip PT-H 7 or 0.8 mm oblong soldering tip PT-K 7), blow-back proof unsoldering set, 1.2 mm unsoldering braid. It is recommendable to use magnifying glasses.

Minimize soldering time in order not to damage the p.c.b. Be careful not to damage any tracks when unsoldering components. Clean the surface. Wait until the first soldered joint has cooled down before starting to solder the opposite side. This serves to avoid stress built-up in the components.

Do not reuse unsoldered components, even if they seem to be faultless. Mechanical damage, possibly caused by soldering or unsoldering components, cannot be excluded.

SMDs are available as spare parts, 50 pcs. packaged in a poly bag. Packages should be marked to make the components distinguishable from each other.

5. MESSGERÄTE UND PRÜFMITTEL

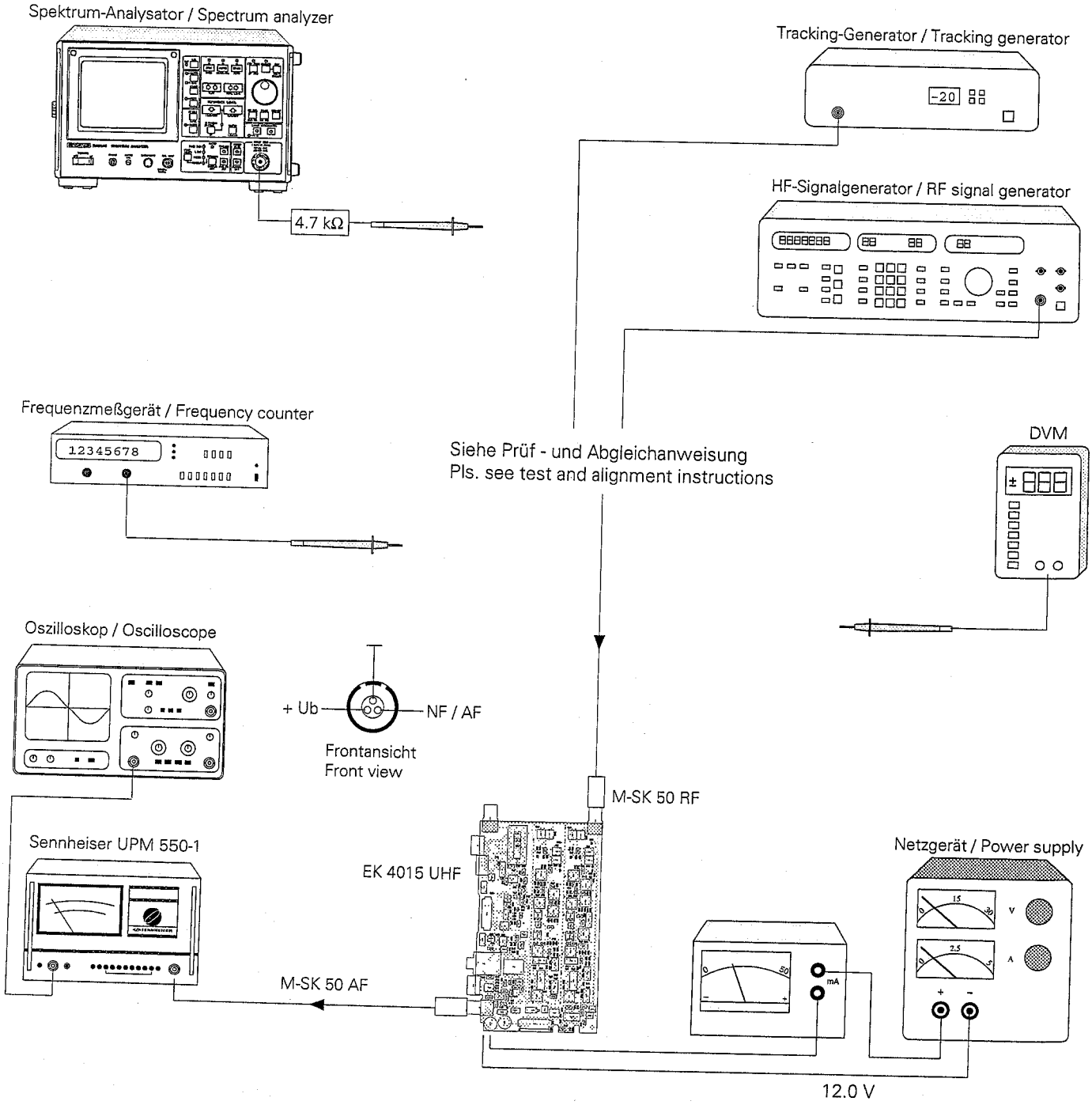
1 Spektrum-Analysator (z.B. Advantest R 4131A)
1 Tracking-Generator (z.B. Advantest TR 4131A)
1 HF-Signalgenerator (z.B. R & S SMS 2)
1 Frequenzmeßgerät (z.B. HEB Digicount 418)
1 Klirrfaktormesser (z.B. UPM 550 - 1)
1 NF-Millivoltmeter (z.B. UPM 550 - 1)
1 DC-Voltmeter Ri ≥ 1 MΩ / V (z.B. Thandar TM 351)
1 Amperemeter (z.B. Thandar TM 351)
1 Netzgerät 0 - 30 V / 1 A
1 Meßadapter M-SK 50 AF (siehe 4.1. Allgemeines)
1 Meßadapter M-SK 50 RF (siehe 4.1. Allgemeines)
1 40 dB Dämpfungsglied (z.B. 4,7 kΩ-Widerstand)

5. SPECIAL TOOLS AND EQUIPMENT

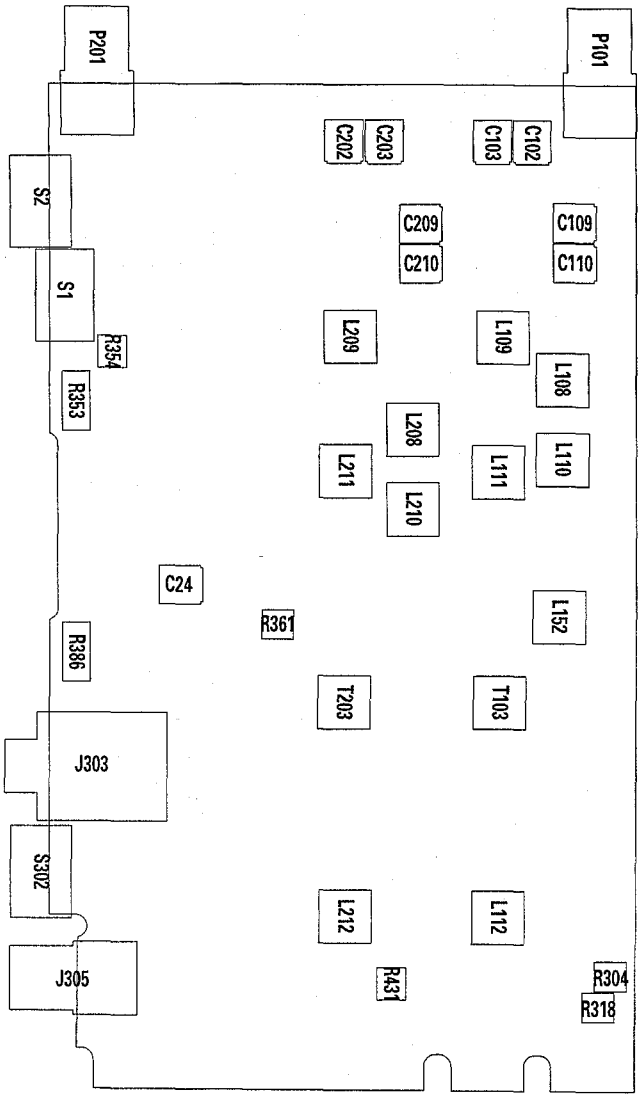
1 Spectrum analyzer (e.g. Advantest R 4131A)
1 Tracking generator (e.g. Advantest TR 4131A)
1 RF signal generator (e.g. R & S SMS 2)
1 Frequency counter (e.g. HEB Digicount 418)
1 THD measuring device (e.g. UPM 550 - 1)
1 AF millivoltmeter (e.g. UPM 550 - 1)
1 DC voltmeter Ri ≥ 1 MΩ / V (e.g. Thandar TM 351)
1 Ammeter (e.g. Thandar TM 351)
1 DC power supply 0 to 30 V / 1 A
1 Test adapter M-SK 50 AF (pls. see 4.1. General)
1 Test adapter M-SK 50 RF (pls. see 4.1. General)
1 40 dB damping resistor (e.g. 4.7 kΩ resistor)

6. MESSAUFBAU

6. TEST SET-UP

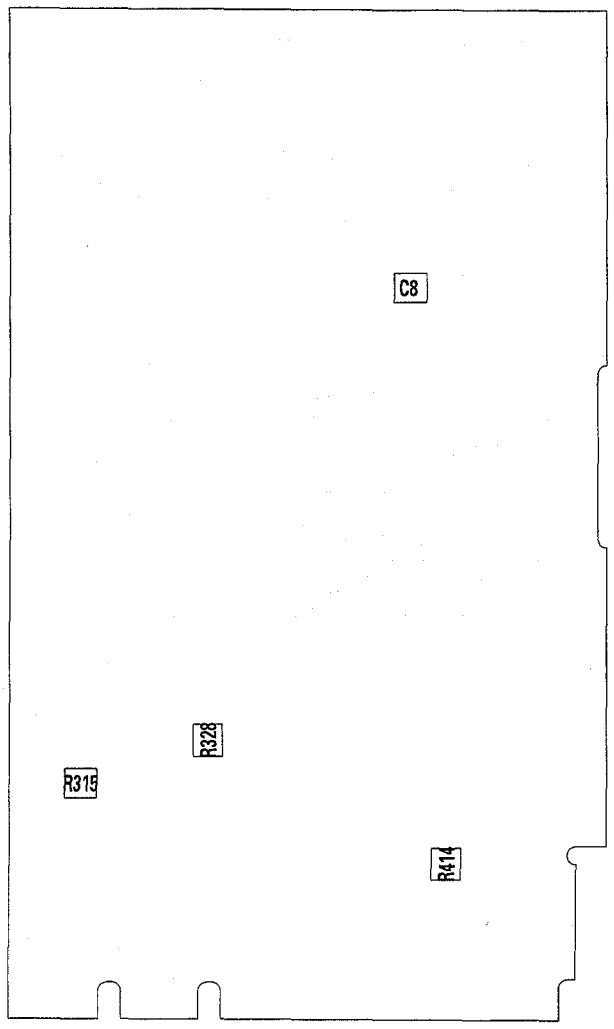


ABGLEICHELEMENTE



BESTÜCKUNGSSEITE
COMPONENT SIDE

ADJ. LOCATION



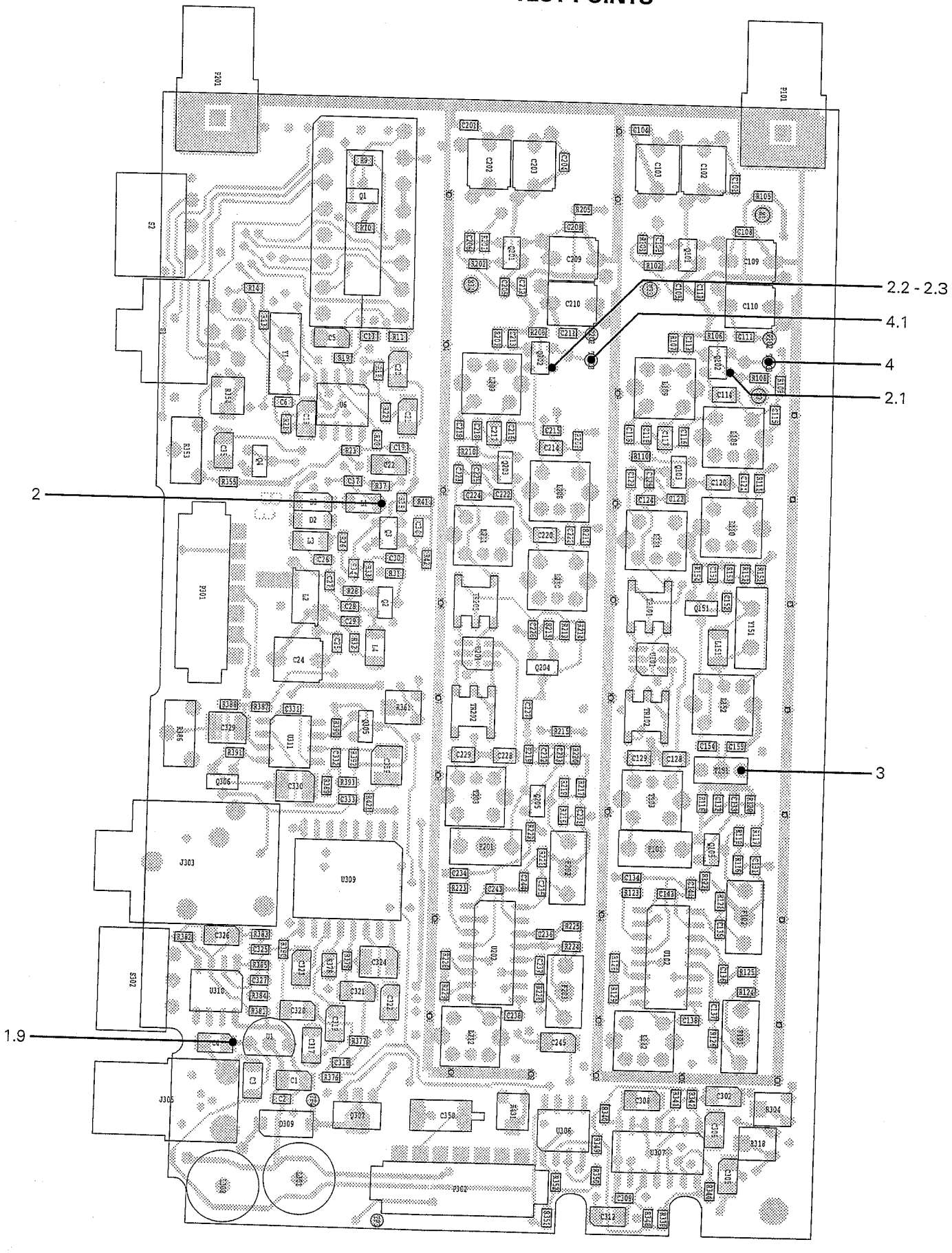
LÖTSEITE
SOLDER SIDE

NOTIZEN:

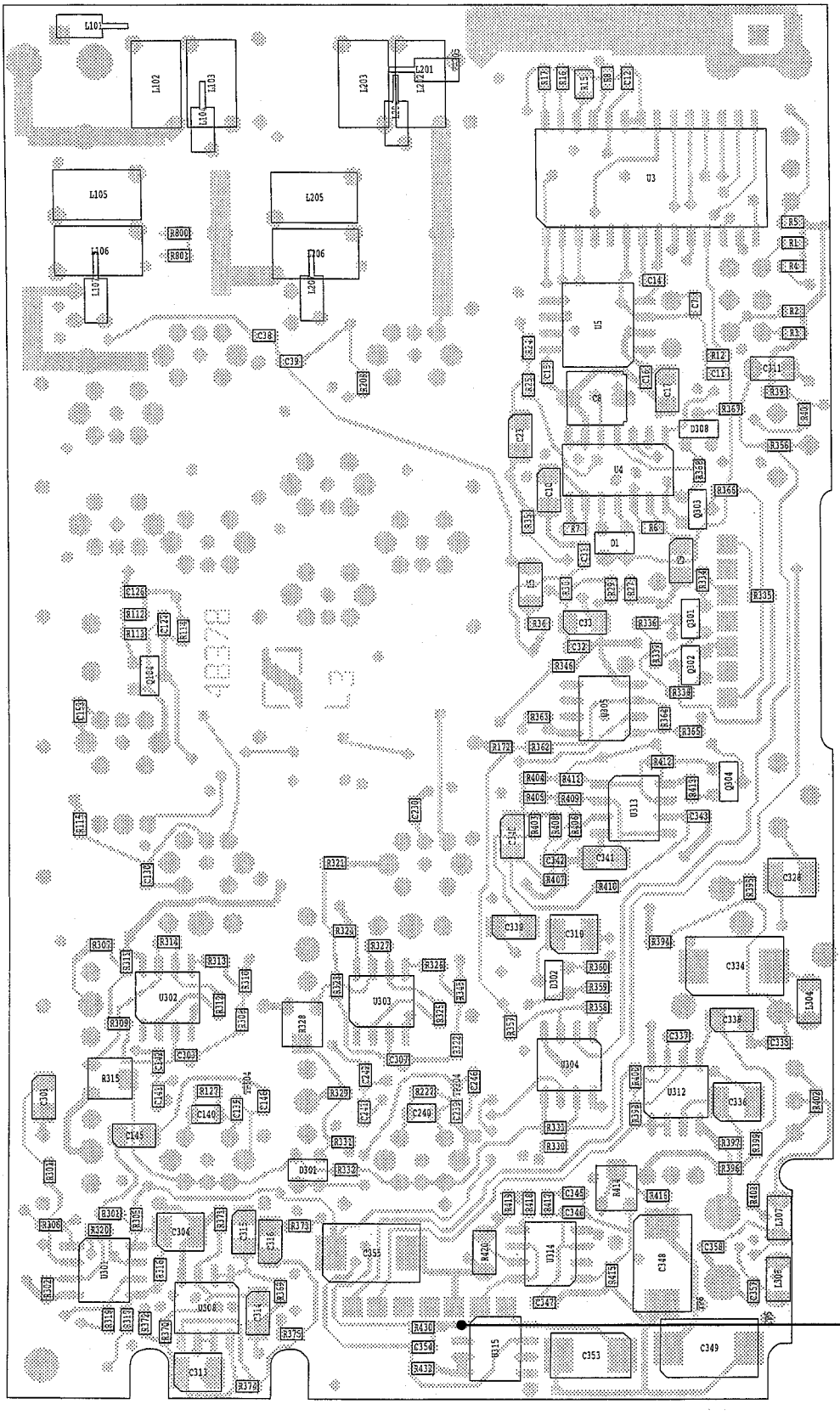
NOTES:

MESSPUNKTE

TEST POINTS



BESTÜCKUNGSSEITE
COMPONENT SIDE



1.1 - 1.3
1.5 - 1.7

LÖTSEITE
SOLDER SIDE

7. PRÜF - UND ABGLEICHANWEISUNG

Zum Abgleich "Service-Hinweise" beachten!

Nr.	Messung, Einstellung	Signal-einspeisung	Vorbereitung, Geräteeinstellung	Meßpunkt	Sollwert	Einsteller	Bemerkungen
1	Stromaufnahme		UB: 12 V, S 301 "ON", Amperemeter		100 - 120 mA		
1.1	Betriebsspannung + U (7,5 V)		wie 1.	U315 Pin1	7,5 V	R431	
1.2	Betriebsspannung + U (7,5 V)		UB: 9 V sonst wie 1.	U315 Pin1	7,5 V		
1.3	Betriebsspannung + U (7,5 V)		UB = 15 V, sonst wie 1.	U315 Pin1	7,5 V		
1.4	Spannungswandler		UB = 4,5 V, Amperemeter		200 - 220 mA		Empfänger aus- und wieder einschalten
1.5	Spannungswandler		wie 1.4.	U315 Pin1	7,5 V	R414	
1.6	Spannungswandler		UB: 3,0 V, sonst wie 1.	U315 Pin1	7,5 V		Stromaufnahme ca. 370 mA
1.7	Spannungswandler		UB: 5,0 V, sonst wie 1.	U315 Pin1	7,5 V		Stromaufnahme ca. 190 mA
1.8	Power Anzeige		wie 1.7.	LED D307 leuchtet	C24		Nur wenn D307 nicht leuchtet mit C24 nachgleichen "PLL rastet"
1.9	Betriebsspannung +5 V		wie 1.	U1 Pin3	5 V ± 0,1 V		
2	PLL-Oszillator		wie 1.	R25 / L1	3,7 V	C24	Regelsteilheit ca. 8 MHz / V
2.1	PLL-Ausgangs-pegel Kanal A		wie 2., Spektrum-Analysator mit 50 Ω Meßkabel und 4,7 kΩ Vorwiderstand	Q102 / G2	+ 5 dBm		zum abgelesenen Wert 40 dB addieren (Dämpfung des 4,7 kΩ Widerstandes)
2.2	PLL-Ausgangs-pegel Kanal B		wie 2.1.	Q202 / G2	+ 5 dBm		wie 2.1.
2.3	Oszillatorfrequenz		wie 2., Frequenzmeßgerät	Q202 / G2	f	C8	Bereich 1 und 2: f = fe + 125 MHz, Bereich 3 und 4: f = fe - 125 MHz
3	2.Oszillator		wie 2., Spektrum-Analysator mit 50 Ω Meßkabel und 4,7 kΩ Vorwiderstand	T151 Pin3	max. Pegel, ca. + 10 dBm	L152	
4	Vorkreis Kanal A	Tracking Generator an HF-Eingang A (P101): - 20 dBm	wie 3.	TP103	- 15 dBm	C102, C103 C109, C110	max Bandbreite ca. 30 MHz
4.1	Vorkreis Kanal B	Tracking Generator an HF-Eingang B (P201): - 20 dBm	wie 3.	TP203	- 15 dBm	C202, C203 C209, C210	max Bandbreite ca. 30 MHz
5	Ratiofilter Kanal A	HF-Signalgenerator an HF-Eingang A (P101), HF: 50 µV, Hub: 40 kHz, Mod: 1 kHz	sonst wie 2. AF-out-Schalter S302 "HIGH", UPM 550 - 1	J305	max. NF	L112	

Nr.	Messung, Einstellung	Signal-einspeisung	Vorbereitung, Geräteeinstellung	Meßpunkt	Sollwert	Einsteller	Bemerkungen
5.1	NF-Ausgang Kanal A	wie 5.	wie 5.	J305	+ 6 dBm	R304	
5.2	ZF-Kreise Kanal A	HF 1,6 µV, sonst wie 5.	wie 5.	J305	max. NF	L108, L109 L110, L111 T103	
5.3	Ratiofilter Kanal B	HF-Signal-generator an HF-Eingang B (P201), HF: 50 µV, Hub: 40 kHz, Mod: 1 kHz	wie 5.	J305	max. NF	L212	
5.4	NF-Ausgang Kanal B	wie 5.3.	wie 5.	J305	+ 6 dBm	R318	
5.5	ZF-Kreise Kanal B	HF: 1,6 µV, sonst wie 5.3.	wie 5.	J305	max. NF	L208, L209 L210, L211 T203	
5.6	HF-Feinabgleich Kanal A	HF: 1,6 µV, sonst wie 5.	wie 5.	J305	max. NF, min. Rauschen	T103, L111 L110, L109 L108, L152 C110, C109 C103, C102	
5.7	HF-Feinabgleich Kanal B	HF 1,6 µV, sonst wie 5.3.	wie 5.	J305	max. NF, min. Rauschen	T203, L211 L210, L209 L208, C210 C209, C203 C202	
5.8	Sämtliche Kanäle des EK4015 mit Hilfe des HF-Signalgenerators überprüfen, anschließend wieder auf Mittenfrequenz schalten.						
6	Diversity Um-schaltung Kanal A	HF-Signalgenerator an Eingang A (P101), HF: 1 µV, Hub: 40 kHz, Mod: 1 KHz	wie 5.	J305, D303		R315	LED D303 "A" leuchtet
6.1	Diversity Um-schaltung Kanal B	HF-Signalgenerator an Eingang B (P301), sonst wie 6.	wie 5.	J305, D304		R328	LED D304 "B" leuchtet
6.2	RF-Indikator	HF: 7 µV, sonst wie 6.1.	wie 5.	LED D305		R361	LED D305 "RF" leuchtet gerade
6.3	AF-Indikator	HF: 50 µV, sonst wie 6.1., Hub verringern bis LED D306 (AF) erlischt	wie 5.		Hub ca. 20 - 25 kHz		
7	Kopfhörerausgang	Hub: 40 kHz, sonst wie 6.3.	3,5 mm Klinken-stecker an J303 kontaktieren, UPM 550 - 1	J303	2,3 Veff	R386	Ausgangssignal darf nicht klippen
7.1	Klirrfaktor Kanal B	wie 7.	UPM 550 - 1, oder Klirrfaktormeßgerät	J305	k ≤ 1%	L112	
7.2	Klirrfaktor Kanal A	Signalgenerator an Eingang A (P101), sonst wie 7.1.	UPM 550 - 1 oder Klirrfaktormeßgerät	J305	k ≤ 1%	L212	
7.3	Störspannungs-abstand bei 50 µV Eingangs-spannung Kanal A	wie 7.2.	UPM 550 - 1	J305	≥ 105 dBA		

Nr.	Messung, Einstellung	Signal-einspeisung	Vorbereitung, Geräteeinstellung	Meßpunkt	Sollwert	Einsteller	Bemerkungen
7.4	Störspannung bei 2 µV, Eingangs-spannung Kanal A	HF: 2 µV, sonst wie 7.3.	UPM 550 - 1	J305	≥ 52 dBA		
7.5	Störspannungs-abstand bei 50 µV Eingangs-spannung Kanal B	HF-Signalgenerator an Eingang B, HF: 50 µV, Hub: 40 kHz, Mod: 1 kHz	UPM 550 - 1	J305	≥ 105 dBA		
7.6	Störspannung bei 2 µV, Eingangs-spannung B	HF: 2 µV, sonst wie 7.5.	UPM 550 - 1	J305	≥ 52 dBA		
8	NF-Ausgang	wie 7.5.	UPM 550 - 1 S302 "HIGH"	J305	+ 6 dBm ± 1dB		
8.1	NF-Ausgang	wie 7.5.	UPM 550 - 1 S302 "LOW"	J305	- 34 dBm ± 1dB		
9	Rauschsperre	wie 7.5., HF: 0 µV, dann HF-Spannung erhöhen bis Signal am NF-Ausgang erscheint	UPM 550 - 1 R353 auf Pos. "3"	J305			Rauschsperre öffnet zwischen 2 - 3 µV HF - Spannung

NOTIZEN:

7. TEST AND ALIGNMENT INSTRUCTIONS

For alignment pls. see "Service hints" !

No	Measurement, adjustment	Signal input	Preparations, settings	Test point	Desired value	Adjuster	Remarks
1	Current consumption		UB: 12 V, S 301 "ON", ammeter		100 - 120 mA		
1.1	Service voltage + U (7.5 V)		as 1.	U315 Pin1	7.5 V	R431	
1.2	Service voltage + U (7.5 V)		UB: 9 V the rest as 1.	U315 Pin1	7.5 V		
1.3	Service voltage + U (7,5 V)		UB = 15 V, the rest as 1.	U315 Pin1	7.5 V		
1.4	Voltage converter		UB = 4.5 V, ammeter		200 - 220 mA		Switch receiver off and on
1.5	Voltage converter		as 1.4.	U315 Pin1	7.5 V	R414	
1.6	Voltage converter		UB: 3.0 V, the rest as 1.	U315 Pin1	7.5 V		Current consumption approx. 370 mA
1.7	Voltage converter		UB: 5.0 V, the rest as 1.	U315 Pin1	7.5 V		Current consumption approx. 190 mA
1.8	Power indication		as 1.7.	LED D307 lights		C24	If D307 doesn't lights, readjust with C24 "PLL lock"
1.9	Service voltage + 5 V		as 1.	U1 Pin3	5 V ± 0.1 V		
2	PLL-oscillator		as 1.	R25 / L1	3.7 V	C24	control steepness approx. 8 MHz / V
2.1	PLL-output level channel A		as 2.., spectrum analyzer with 50Ω measuring cable and 4.7 kΩ multiplier	Q102 / G2	+ 5 dBm		Add 40 dB to the read value (attenuation of the 4.7 kΩ resistor)
2.2	PLL-output level channel B		as 2.1.	Q202 / G2	+ 5 dBm		as 2.1.
2.3	Oscillator frequency		as 2., frequency counter	Q202 / G2	f	C8	Range 1 und 2: f = fr + 125 MHz, range 3 und 4: f = fr - 125 MHz
3	2.oscillator		as 2.., spectrum analyzer with 50Ω measuring cable and 4.7 kΩ multiplier	T151 Pin3	max. level approx. + 10 dBm	L152	
4	Input circuit A	Connect tracking generator to RF-input A (P101): - 20 dBm	as 3.	TP103	- 15 dBm	C102, C103 C109, C110	max. bandwidth approx. 30 MHz
4.1	Input circuit B	Connect tracking generator to RF-input B (P201): - 20 dBm	as 3.	TP203	- 15 dBm	C202, C203 C209, C210	max. bandwidth approx. 30 MHz
5	Ratio-filter channel A	Connect RF-signal generator to RF-input A (P101), AF: 50 µV, Dev: 40 kHz, Mod: 1 kHz	The rest as 2. AF-out-switch S302 "HIGH", UPM 550 - 1	J305	max. AF	L112	

No	Measurement, adjustment	Signal input	Preparations, settings	Test point	Desired value	Adjuster	Remarks
5.1	AF-output channel A	as 5.	as 5.	J305	+ 6 dBm	R304	
5.2	IF-circuits channel A	RF 1.6 µV, the rest as 5.	as 5.	J305	max. NF	L108, L109 L110, L111 T103	
5.3	Ratio-filter channel B	Connect RF-signal generator to RF-input B (P201), AF: 50 µV, Dev: 40 kHz, Mod: 1 kHz	as 5.	J305	max. NF	L212	
5.4	AF-output channel B	as 5.3.	as 5.	J305	+ 6 dBm	R318	
5.5	IF-circuits channel B	RF: 1.6 µV, the rest as 5.3.	as 5.	J305	max. AF	L208, L209 L210, L211 T203	
5.6	Precise RF-adjustment channel A	RF: 1.6 µV, the rest as 5.3.	as 5.	J305	max. AF, min. noise	T103, L111 L110, L109 L108, L152 C110, C109 C103, C102	
5.7	Precise RF-adjustment channel B	RF :1.6 µV, the rest as 5.3.	as 5.	J305	max. AF, min. noise	T203, L211 L210, L209 L208, C210 C209, C203 C202	
5.8	Check all channels of the EK4015 with RF-signal generator, then switch back to center frequency.						
6	Diversity switching of channel A	Connect RF-signal generator to input A (P101), RF: 1 µV, Dev: 40 kHz, Mod: 1 KHz	as 5.	J305, D303		R315	LED D303 "A" lights
6.1	Diversity switching of channel B	Connect RF-signal generator to input B (P301), the rest as 6.	as 5.	J305, D304		R328	LED D304 "B" lights
6.2	RF-Indicator	RF: 7 µV, the rest as 6.1.	as 5.	LED D305		R361	LED D305 "RF" starts lighting
6.3	AF-Indicator	RF: 50 µV, rest as 6.1., reduce dev. till LED D306 (AF) is extinguished	as 5.		Dev. approx. 20 - 25 kHz		
7	Headphone output	Dev: 40 kHz, the rest as 6.3.	Contact 3,5 mm jack plug to J303, UPM 550 - 1	J303	2.3 Veff	R386	Output signal must not clip
7.1	THD channel B	as 7.	UPM 550 - 1, or THD measuring device	J305	k ≤ 1%	L112	
7.2	THD channel A	Connect signal generator to input A (P101), the rest as 7.1.	UPM 550 - 1, or THD measuring device	J305	k ≤ 1%	L212	
7.3	S/N-ratio at 50 µV input voltage channel A	as 7.2.	UPM 550 - 1	J305	≥ 105 dBA		

No	Measurement, adjustment	Signal input	Preparations, settings	Test point	Desired value	Adjuster	Remarks
7.4	S/N-ratio at 2 µV input voltage channel A	RF: 2 µV, the rest as 7.3.	UPM 550 - 1	J305	≥ 52 dBA		
7.5	S/N-ratio at 50 µV input voltage channel B	Connect RF-signal generator to input B (P301) RF: 50 µV, Dev: 40 kHz, Mod: 1 kHz	UPM 550 - 1	J305	≥ 105 dBA		
7.6	S/N-ratio at 2 µV input voltage channel B	HF: 2 µV, the rest as 7.5.	UPM 550 - 1	J305	≥ 52 dBA		
8	AF-output	as 7.5.	UPM 550 - 1 S302 "HIGH"	J305	+ 6 dBm ± 1dB		
8.1	AF-output	as 7.5.	UPM 550 - 1 S302 "LOW"	J305	- 34 dBm ± 1dB		
9	Squelch	as 7.5., RF: 0 µV, increase RF voltage until AF signal is shown on UPM 550 - 1	UPM 550 - 1 R353 to Pos. "3"	J305			Squelch opens at approx. 2 - 3 µV RF input voltage

HF-Vorverstärker
RF-Pre-Amplifier

1.Mischer
1st Mixer

1.ZF-zVerstärker
1st IF-Amplifier

2.Oszillator
2nd Oscillator

2.Mischer
2nd Mixer

2.ZF-Verstärker
2nd IF-Amplifier

3.ZF-Verstärker und Demodulator
3rd IF-Amplifier and Demodulator

P101 ANT A

P201 ANT B

NF A

NF B

UR A

UR B

+U

7.5V +U

* NF-Phasenlage nach Variablentabelle bestueckt.

Power Supply
Stromversorgung

PLL Circuit

Prescaler
Vorteiler

LO Oscillator

Buffer Stage
Puffer Stufe

Frequency Switch
Frequenzschalter

Prom

Lock

Varianten Bestueckung	Frequenzbereich	L105	L205	C101	C104	C108	C111	C201	C204	C208	C211	C25	C26	C28	C29	R128	R129	R228	R229	R800	R801
Bereich 1 :	450 - 502 MHz	48153	48153	6p8	6p8	3p3	3p3	6p8	6p8	3p3	3p3	1n0	10p	10p	5p6	- -	10k	- -	10k	47k	- -
Bereich 2 :	558 - 702 MHz	48153	48153	- -	- -	- -	3p3	- -	- -	- -	3p3	10p	4p7	3p3	3p3	- -	10k	- -	10k	- -	- -
Bereich 3 :	678 - 838 MHz	25043	25043	- -	- -	- -	- -	- -	- -	- -	- -	1n0	10p	10p	5p6	10k	- -	10k	- -	- -	47k
Bereich 4 :	814 - 960 MHz	25043	25043	- -	- -	- -	- -	- -	- -	- -	- -	10p	4p7	3p3	3p3	10k	- -	10k	- -	47k	47k

EK 4015 UHF, HF-Teil, Stromlaufplan
EK 4015 UHF, RF section, Circuit diagram

Audio Amplifier
NF Verstärker

Div./Sqelch Switch
Div./Sqelch Schalter

AF Highpass
NF Hochpass

AF Expander
NF Expander

Audio Amplifier
NF Verstärker

* Um mit dem alten HiDyn kompatibel zu sein, müssen
R377 und R384 in 0 Ohm und C319 in 2,2uF/16V geändert werden

R800 47KJ R801 47KJ Kodierwiderstände nur zur optischen Kennung des Frequenzbereiches (siehe Tabelle Frequenzvarianten)
Resistor code for optical identification of frequency range (pls. see frequency table)

NF A 80mV

UR A 0.5-4.4V

Controll Voltage Unit
Regelspannungsaufbereitung

Peak Anzeige

Sqelch Comperator

DC/DC Converter
DC/DC Wandler

Audio Amplifier
NF - Verstärker

NF B 80mV

UR B 0.5-4.4V

Controll Voltage Unit
Regelspannungsaufbereitung

Div. Comperator

HF Indikator
HF Anzeige

Diversity Indikator
Diversity Anzeige

Lock Indikator
Betriebsanzeige

Lock

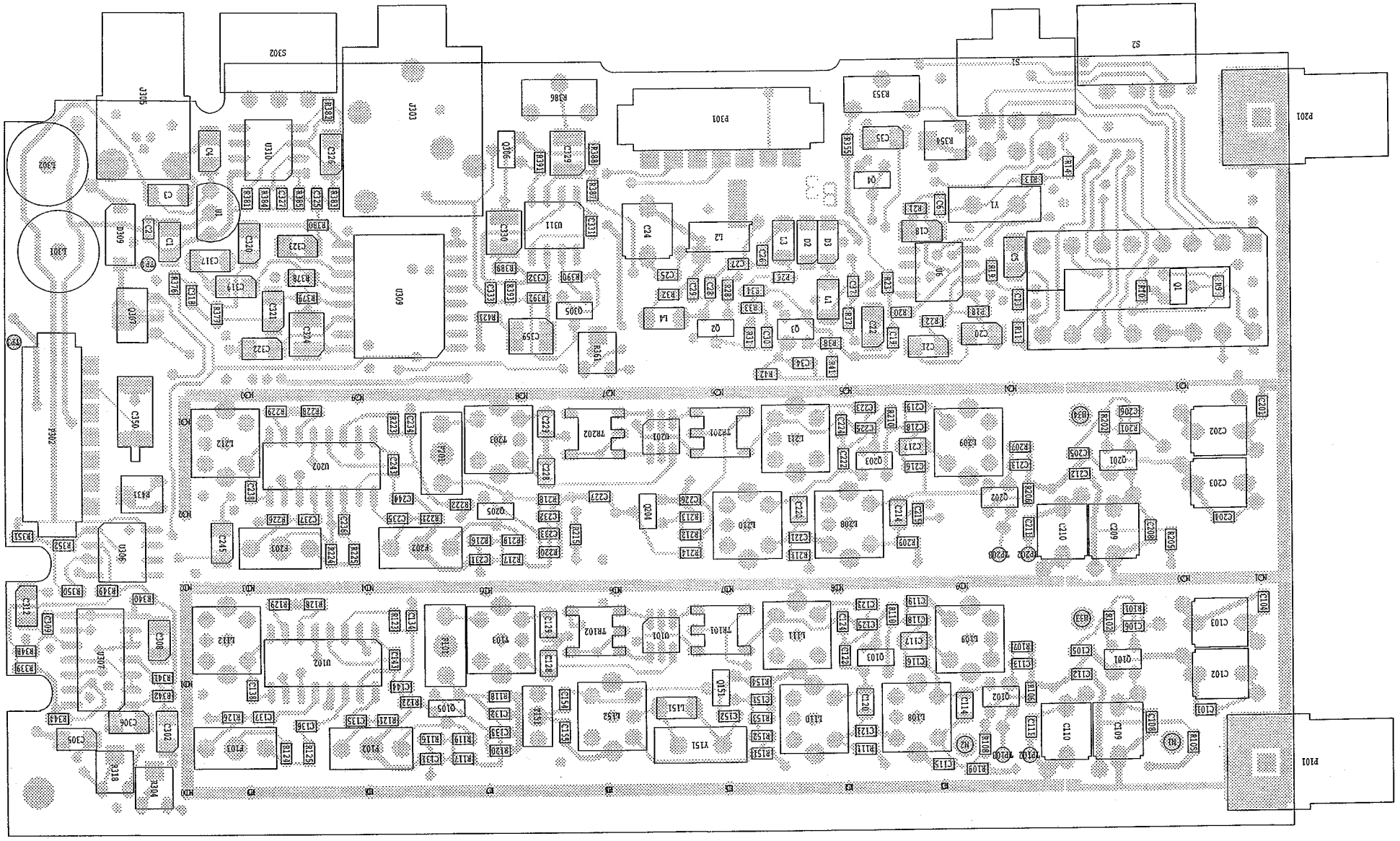
Power Supply
Stromversorgung

DC IN 11-15V 2-5V J302

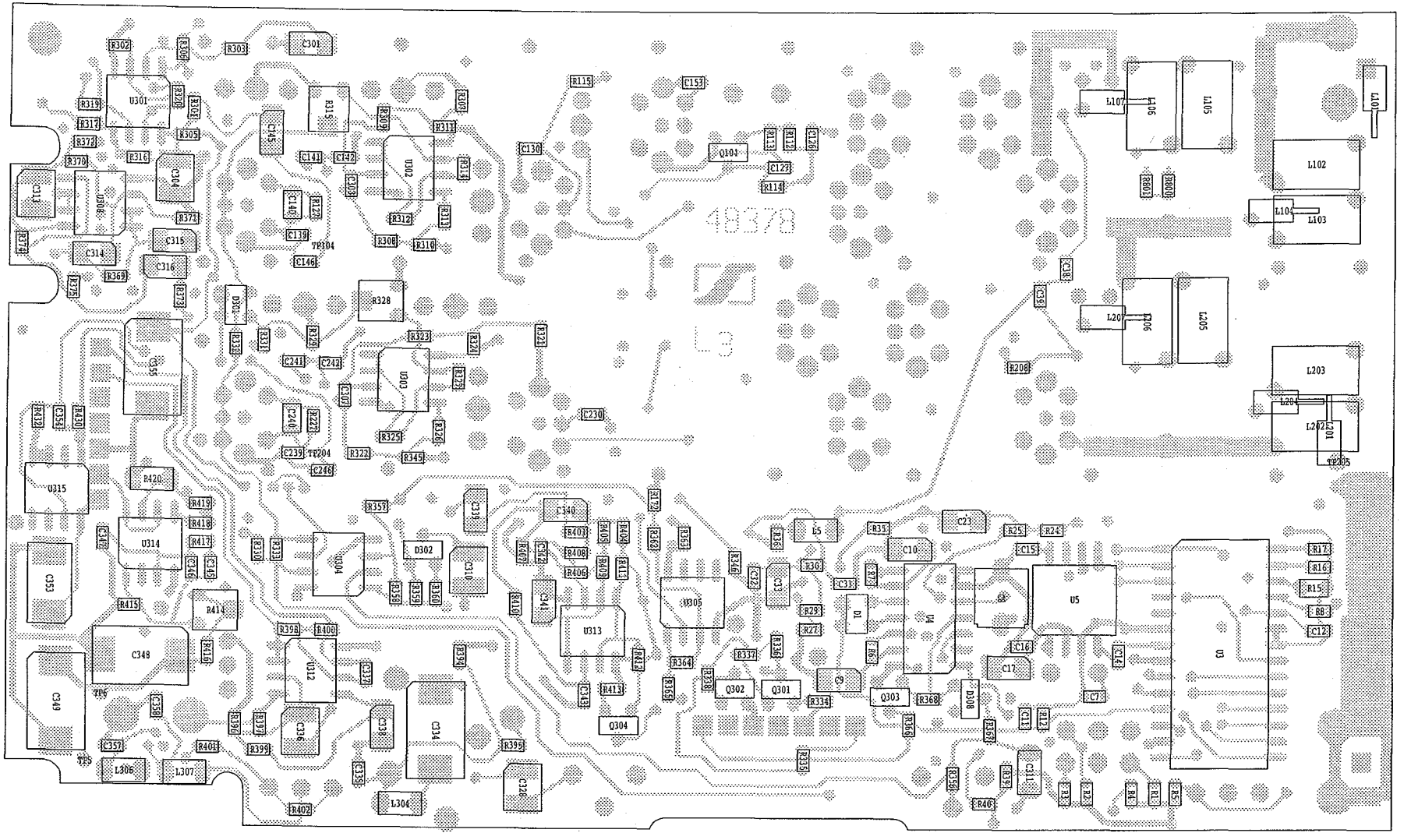
AF-Output
NF-Ausgang

min 30mV eff
max 3.2V eff
bei 56kHz Hub

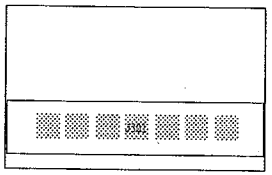
EK 4015 UHF, NF-Teil, Stromlaufplan
EK 4015 UHF, AF section, Circuit diagram



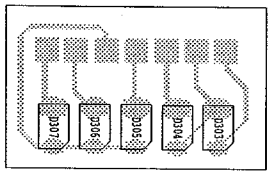
GEDRUCKTE SCHALTUNG EK 4015, BESTÜCKUNGSSEITE
PRINTED CIRCUIT BOARD EK 4015, COMPONENT SIDE



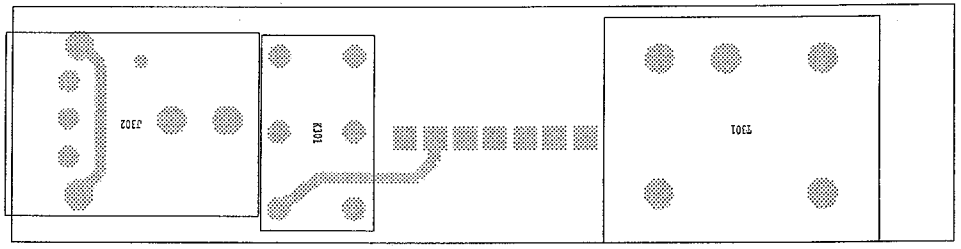
GEDRUCKTE SCHALTUNG EK 4015, LÖTSEITE
PRINTED CIRCUIT BOARD EK 4015, SOLDER SIDE



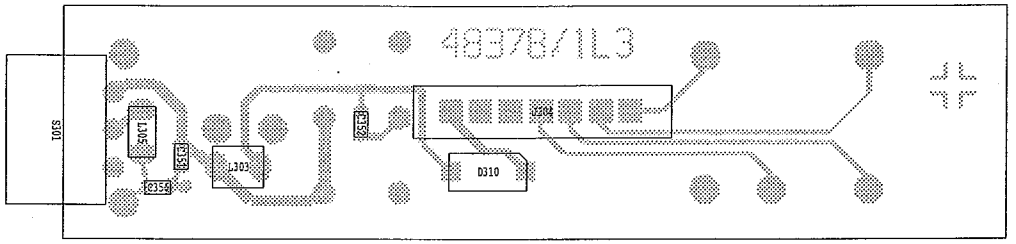
ANZEIGEPLATINE EK 4015, BESTÜCKUNGSSEITE
INDICATOR PCB EK 4015, COMPONENT SIDE



ANZEIGEPLATINE EK 4015, LÖTSEITE
INDICATOR PCB EK 4015, SOLDER SIDE



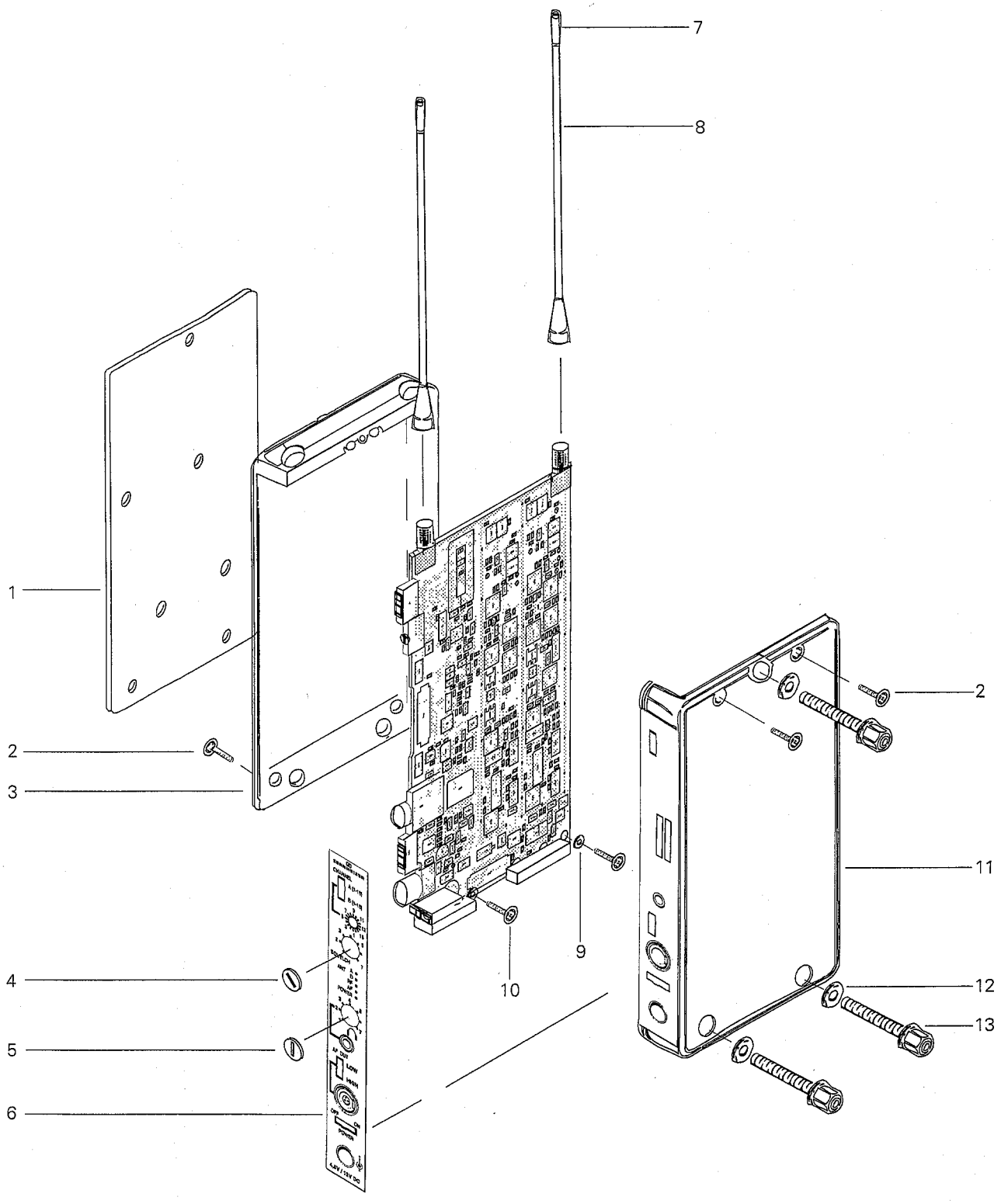
NF-AUSGANGSPLATINE EK 4015, BESTÜCKUNGSSEITE
AF OUTPUT PCB EK 4015, COMPONENT SIDE



NF-AUSGANGSPLATINE EK 4015, LÖTSEITE
AF OUTPUT PCB EK 4015, SOLDER SIDE

10. EXPLOSIONSZEICHNUNG

10. EXPLODED VIEW



11. ERSATZTEILE

11. SPARE PARTS

POS	IDENT	BEZEICHNUNG	DESCRIPTION
001	52479	Platte mit 7 Muttern	Plate with 7 nuts
002	52574	Linsenschraube M2,5x8 DIN7500 (MOQ:10x)	Lens screw M2.5x8 DIN7500 (MOQ:10x)
003	51665	Gehäuse, hinten	Housing, rear
004	52012	Knopf, Schlitz	Knob, slot
005	52011	Knopf	Knob
006	52548	Frontfolie	Frontfolie
007	33151	Schrumpfschlauch	Shrinking tube
008	48819	Wurfantenne	Antenna
009	22662	Scheibe 2,7 DIN433 (MOQ:10x)	Washer 2.7 DIN433 (MOQ:10x)
010	52575	Schraube CM2,5x4 DIN7500 (MOQ:10x)	Screw CM2.5x4 DIN7500 (MOQ:10x)
011	51667	Gehäuse, vorne	Housing, front
012	52584	Scheibe 3,2 DIN433 (MOQ:10x)	Washer 3.2 DIN433 (MOQ:10x)
013	52014	Schraube M3x26,4 (MOQ:10x)	Screw M2x26.4 (MOQ:10x)
C001	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C002	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C003	19480	SMD Kondensator KERKO 100nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 100nF 50V X7R (MOQ:50x)
C004	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C005	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C006	45184	SMD Kondensator KERKO 68pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 68pF 50V NPO (MOQ:50x)
C007	45181	SMD Kondensator KERKO 39pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 39pF 50V NPO (MOQ:50x)
C008	45363	SMD Trimmkondensator 4,5/20pF (MOQ:50x)	SMD capacitor variable 4.5/20pF (MOQ:50x)
C009	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C010	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C011	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C012	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C013	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C014	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C015	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C016	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C017	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C018	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C019	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C020	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C021	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C022	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C023	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C024	45364	SMD Trimmkondensator 2,0/6,0pF (MOQ:50x)	SMD capacitor variable 2.0/6.0pF (MOQ:50x)
C025A	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x) 450-582MHz,678-838MHz	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x) 450-582MHz,678-838MHz
C025B	45500	SMD Kondensator KERKO 18pF 50V NPO (MOQ:50x) 558-702MHz,814-960MHz	SMD capacitor KERO 18pF 50V NPO (MOQ:50x) 558-702MHz,814-960MHz
C026A	45500	SMD Kondensator KERKO 18pF 50V NPO (MOQ:50x) 450-582MHz,678-838MHz	SMD capacitor KERO 18pF 50V NPO (MOQ:50x) 450-582MHz,678-838MHz
C026B	45170	SMD Kondensator KERKO 4,7pF 50V NPO KEFQ (MOQ:50x) 558-702MHz,814-960MHz	SMD capacitor KERKO 4.7pF 50V NPO KEFQ (MOQ:50x) 558-702MHz,814-960MHz
C027	45171	SMD Kondensator KERKO 5,6pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 5.6pF 50V NPO (MOQ:50x)
C028A	45174	SMD Kondensator KERKO 10pF 50V NPO (MOQ:50x) 450-582MHz,678-838MHz	SMD capacitor KERKO 10pF 50V NPO (MOQ:50x) 450-582MHz,678-838MHz
C028B	45168	SMD Kondensator KERKO 3,3pF 50V NPO (MOQ:50x) 558-702MHz,814-960MHz	SMD capacitor KERKO 3.3pF 50V NPO (MOQ:50x) 558-702MHz,814-960MHz
C029A	45171	SMD Kondensator KERKO 5,6pF 50V NPO (MOQ:50x) 450-582MHz,678-838MHz	SMD capacitor KERKO 5.6pF 50V NPO (MOQ:50x) 450-582MHz,678-838MHz
C029B	45168	SMD Kondensator KERKO 3,3pF 50V NPO (MOQ:50x) 558-702MHz,814-960MHz	SMD capacitor KERKO 3.3pF 50V NPO (MOQ:50x) 558-702MHz,814-960MHz
C030	45193	SMD Kondensator KERKO 470pF 50V X7R (MOQ:50x)	SMD capacitor KERKO 470pF 50V X7R (MOQ:50x)
C031	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C032	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C033	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C034	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C037	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C038	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C039	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C101	45172	SMD Kondensator KERKO 6,8pF 50V NPO (MOQ:50x) 450-582MHz	SMD capacitor KERKO 6.8pF 50V NPO (MOQ:50x) 450-582MHz
C102	45365	SMD Trimmkondensator 3,0/10pF (MOQ:50x)	SMD capacitor variable 3.0/10pF (MOQ:50x)
C103	45365	SMD Trimmkondensator 3,0/10pF (MOQ:50x)	SMD capacitor variable 3.0/10pF (MOQ:50x)
C104	45172	SMD Kondensator KERKO 6,8pF 50V NPO (MOQ:50x) 450-582MHz	SMD capacitor KERKO 6.8pF 50V NPO (MOQ:50x) 450-582MHz
C105	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C106	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C108	45168	SMD Kondensator KERKO 3,3pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 3.3pF 50V NPO (MOQ:50x)

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		450-582MHz	450-582MHz
C109	45365	SMD Trimmkondensator 3,0/10pF (MOQ:50x)	SMD capacitor variable 3.0/10pF (MOQ:50x)
C110	45365	SMD Trimmkondensator 3,0/10pF (MOQ:50x)	SMD capacitor variable 3.0/10pF (MOQ:50x)
C111	45168	SMD Kondensator KERKO 3,3pF 50V NPO (MOQ:50x) 450-702MHz	SMD capacitor KERKO 3.3pF 50V NPO (MOQ:50x) 450-702MHz
C112	45187	SMD Kondensator KERKO 120pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 120pF 50V NPO (MOQ:50x)
C113	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C114	29574	SMD Kondensator KERKO 15pF 50V N150 (MOQ:50x)	SMD capacitor KERKO 15pF 50V N150 0805 (MOQ:50x)
C115	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C116	45166	SMD Kondensator KERKO 2,2pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 2.2pF 50V NPO (MOQ:50x)
C117	33121	SMD Kondensator KERKO 27pF 50V N150 0805 (MOQ:50x)	SMD capacitor KERKO 27pF 50V N150 0805 (MOQ:50x)
C118	45185	SMD Kondensator KERKO 82pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 82pF 50V NPO (MOQ:50x)
C119	45185	SMD Kondensator KERKO 82pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 82pF 50V NPO (MOQ:50x)
C120	29574	SMD Kondensator KERKO 15pF 50V N150 (MOQ:50x)	SMD capacitor KERKO 15pF 50V N150 0805 (MOQ:50x)
C121	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C122	45166	SMD Kondensator KERKO 2,2pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 2.2pF 50V NPO (MOQ:50x)
C123	45179	SMD Kondensator KERKO 27pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 27pF 50V NPO (MOQ:50x)
C124	45185	SMD Kondensator KERKO 82pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 82pF 50V NPO (MOQ:50x)
C125	45185	SMD Kondensator KERKO 82pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 82pF 50V NPO (MOQ:50x)
C126	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C127	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C128	29148	SMD Kondensator KERKO 270pF 50V NP0 0805 (MOQ:50x)	SMD capacitor KERKO 270pF 50V NP0 0805 (MOQ:50x)
C129	29148	SMD Kondensator KERKO 270pF 50V NP0 0805 (MOQ:50x)	SMD capacitor KERKO 270pF 50V NP0 0805 (MOQ:50x)
C130	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C131	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C132	45178	SMD Kondensator KERKO 22pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 22pF 50V NPO (MOQ:50x)
C133	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C134	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C135	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C136	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C137	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C138	45165	SMD Kondensator KERKO 1,8pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 1.8pF 50V NPO (MOQ:50x)
C139	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C140	32908	SMD Kondensator KERKO 100pF/50V N150 (MOQ:50x)	SMD capacitor KERKO 100pF/50V N150 (MOQ:50x)
C141	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C142	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C143	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C144	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C145	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C151	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C152	45174	SMD Kondensator KERKO 10pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 10pF 50V NPO (MOQ:50x)
C153	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C154	45178	SMD Kondensator KERKO 22pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 22pF 50V NPO (MOQ:50x)
C155	45184	SMD Kondensator KERKO 68pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 68pF 50V NPO (MOQ:50x)
C201	45172	SMD Kondensator KERKO 6,8pF 50V NPO (MOQ:50x) 450-582MHz	SMD capacitor KERKO 6.8pF 50V NPO (MOQ:50x) 450-582MHz
C202	45365	SMD Trimmkondensator 3,0/10pF (MOQ:50x)	SMD capacitor variable 3.0/10pF (MOQ:50x)
C203	45365	SMD Trimmkondensator 3,0/10pF (MOQ:50x)	SMD capacitor variable 3.0/10pF (MOQ:50x)
C204	45172	SMD Kondensator KERKO 6,8pF 50V NPO (MOQ:50x) 450-582MHz	SMD capacitor KERKO 6.8pF 50V NPO (MOQ:50x) 450-582MHz
C205	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C206	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C208	45168	SMD Kondensator KERKO 3,3pF 50V NPO (MOQ:50x) 450-702MHz	SMD capacitor KERKO 3.3pF 50V NPO (MOQ:50x) 450-702MHz
C209	45365	SMD Trimmkondensator 3,0/10pF (MOQ:50x)	SMD capacitor variable 3.0/10pF (MOQ:50x)
C210	45365	SMD Trimmkondensator 3,0/10pF (MOQ:50x)	SMD capacitor variable 3.0/10pF (MOQ:50x)
C211	45168	SMD Kondensator KERKO 3,3pF 50V NPO (MOQ:50x) 450-582MHz	SMD capacitor KERKO 3.3pF 50V NPO (MOQ:50x) 450-582MHz
C212	45187	SMD Kondensator KERKO 120pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 120pF 50V NPO (MOQ:50x)
C213	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C214	29574	SMD Kondensator KERKO 15pF 50V N150 (MOQ:50x)	SMD capacitor KERKO 15pF 50V N150 0805 (MOQ:50x)
C215	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C216	45166	SMD Kondensator KERKO 2,2pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 2.2pF 50V NPO (MOQ:50x)
C217	33121	SMD Kondensator KERKO 27pF 50V N150 0805 (MOQ:50x)	SMD capacitor KERKO 27pF 50V N150 0805 (MOQ:50x)
C218	45185	SMD Kondensator KERKO 82pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 82pF 50V NPO (MOQ:50x)
C219	45185	SMD Kondensator KERKO 82pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 82pF 50V NPO (MOQ:50x)
C220	29574	SMD Kondensator KERKO 15pF 50V N150 (MOQ:50x)	SMD capacitor KERKO 15pF 50V N150 0805 (MOQ:50x)
C221	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C222	45166	SMD Kondensator KERKO 2,2pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 2.2pF 50V NPO (MOQ:50x)
C223	45179	SMD Kondensator KERKO 27pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 27pF 50V NPO (MOQ:50x)
C224	45185	SMD Kondensator KERKO 82pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 82pF 50V NPO (MOQ:50x)
C225	45185	SMD Kondensator KERKO 82pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 82pF 50V NPO (MOQ:50x)
C226	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)

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C227	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C228	29148	SMD Kondensator KERKO 270pF 50V NP0 0805 (MOQ:50x)	SMD capacitor KERKO 270pF 50V NP0 0805 (MOQ:50x)
C229	29148	SMD Kondensator KERKO 270pF 50V NP0 0805 (MOQ:50x)	SMD capacitor KERKO 270pF 50V NP0 0805 (MOQ:50x)
C230	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C231	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C232	45178	SMD Kondensator KERKO 22pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 22pF 50V NPO (MOQ:50x)
C233	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C234	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C235	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C236	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C237	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C238	45165	SMD Kondensator KERKO 1,8pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 1.8pF 50V NPO (MOQ:50x)
C239	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C240	32908	SMD Kondensator KERKO 100pF/50V N150 (MOQ:50x)	SMD capacitor KERKO 100pF/50V N150 (MOQ:50x)
C241	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C242	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C243	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C244	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C245	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C301	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C302	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C303	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C304	45010	SMD Kondensator TA-KO 10uF 4V ERO ETPW1	SMD capacitor TA-KO 10uF 4V ERO ETPW1
C305	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C306	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C307	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C308	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C309	45193	SMD Kondensator KERKO 470pF 50V X7R (MOQ:50x)	SMD capacitor KERKO 470pF 50V X7R (MOQ:50x)
C310	45010	SMD Kondensator TA-KO 10uF 4V ERO ETPW1	SMD capacitor TA-KO 10uF 4V ERO ETPW1
C311	32987	SMD Kondensator KERKO 470nF 25V Z5U 1206 (MOQ:50x)	SMD capacitor KERKO 470nF 25V Z5U 1206(MOQ:50x)
C312	45050	SMD Kondensator TA-KO 470nF 20V	SMD Capacitor TA-KO 470nF 20V
C313	45010	SMD Kondensator TA-KO 10uF 4V ERO ETPW1	SMD capacitor TA-KO 10uF 4V ERO ETPW1
C314	45050	SMD Kondensator TA-KO 470nF 20V	SMD Capacitor TA-KO 470nF 20V
C315	45050	SMD Kondensator TA-KO 470nF 20V	SMD Capacitor TA-KO 470nF 20V
C316	45050	SMD Kondensator TA-KO 470nF 20V	SMD Capacitor TA-KO 470nF 20V
C317	29075	SMD Kondensator KERKO 56nF 50V X7R 1206 (MOQ:50x)	SMD capacitor KERKO 56nF 50V X7R 1206 (MOQ:50x)
C318	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C319	45050	SMD Kondensator TA-KO 470nF 20V	SMD Capacitor TA-KO 470nF 20V
C320	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C321	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C322	45043	SMD Kondensator TA-KO 2,2uF 16V IEC 384,3	SMD capacitor TA-KO 2.2uF 16V IEC 384,3
C323	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C324	45010	SMD Kondensator TA-KO 10uF 4V ERO ETPW1	SMD capacitor TA-KO 10uF 4V ERO ETPW1
C325	45193	SMD Kondensator KERKO 470pF 50V X7R (MOQ:50x)	SMD capacitor KERKO 470pF 50V X7R (MOQ:50x)
C326	41414	SMD Kondensator TA-KO 1uF 16V	SMD capacitor TA-KO 1uF 16V
C327	45199	SMD Kondensator KERKO 4,7nF 50V X7R 0603 (MOQ:50x)	SMD capacitor KERKO 4.7nF 50X X7R 0603 (MOQ:50x)
C328	45044	SMD Kondensator TA-KO 4,7uF 10V SUP8 (MOQ:50x)	SMD capacitor TA-KO 4.7uF 10V SUP8 (MOQ:50x)
C329	45044	SMD Kondensator TA-KO 4,7uF 10V SUP8 (MOQ:50x)	SMD capacitor TA-KO 4.7uF 10V SUP8 (MOQ:50x)
C330	45044	SMD Kondensator TA-KO 4,7uF 10V SUP8 (MOQ:50x)	SMD capacitor TA-KO 4.7uF 10V SUP8 (MOQ:50x)
C331	45178	SMD Kondensator KERKO 22pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 22pF 50V NPO (MOQ:50x)
C332	45178	SMD Kondensator KERKO 22pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 22pF 50V NPO (MOQ:50x)
C333	45182	SMD Kondensator KERKO 47pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 47pF 50V NPO (MOQ:50x)
C334	48321	SMD Kondensator TA-ELKO 100uF 10V	SMD capacitor TA-ELKO 100uF 10V
C335	45199	SMD Kondensator KERKO 4,7nF 50V X7R 0603 (MOQ:50x)	SMD capacitor KERKO 4.7nF 50X X7R 0603 (MOQ:50x)
C336	45044	SMD Kondensator TA-KO 4,7uF 10V SUP8 (MOQ:50x)	SMD capacitor TA-KO 4.7uF 10V SUP8 (MOQ:50x)
C337	45182	SMD Kondensator KERKO 47pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 47pF 50V NPO (MOQ:50x)
C338	45050	SMD Kondensator TA-KO 470nF 20V	SMD Capacitor TA-KO 470nF 20V
C339	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C340	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C341	48318	SMD Kondensator TA-KO 10uF 4V	SMD capacitor TA-KO 10uF 4V
C342	45187	SMD Kondensator KERKO 120pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 120pF 50V NPO (MOQ:50x)
C343	45187	SMD Kondensator KERKO 120pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 120pF 50V NPO (MOQ:50x)
C345	45197	SMD Kondensator KERKO 2,2nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 2,2nF 50V X7R (MOQ:50x)
C346	45179	SMD Kondensator KERKO 27pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 27pF 50V NPO (MOQ:50x)
C347	45194	SMD Kondensator KERKO 680pF 50V X7R (MOQ:50x)	SMD capacitor KERKO 680pF 50V X7R (MOQ:50x)
C348	45427	SMD Kondensator TA-KO 47uF 10V	SMD capacitor TA-KO 47uF 10V
C349	45427	SMD Kondensator TA-KO 47uF 10V	SMD capacitor TA-KO 47uF 10V
C350	45023	SMD Kondensator TA-KO 33uF 15V	SMD capacitor TA-KO 33uF 15V
C351	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C352	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C353	45339	SMD Kondensator TA-KO 10uF 16V IEC384.3	SMD capacitor TA-KO 10uF 16V IEC384.3
C354	45201	SMD Kondensator KERKO 10nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 10nF 50V X7R (MOQ:50x)
C355	45229	SMD Kondensator TA-KO 47uF 10V	SMD capacitor TA-KO 47uF 10V

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C356	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C357	45195	SMD Kondensator KERKO 1nF 50V X7R (MOQ:50x)	SMD capacitor KERKO 1nF 50V X7R (MOQ:50x)
C358	45187	SMD Kondensator KERKO 120pF 50V NPO (MOQ:50x)	SMD capacitor KERKO 120pF 50V NPO (MOQ:50x)
C359	45010	SMD Kondensator TA-KO 10uF 4V ERO ETPW1	SMD capacitor TA-KO 10uF 4V ERO ETPW1
D001	40101	SMD Doppeldiode BAS28 SOT143	SMD diodes (two) BAS28 SOT143
D002	41275	SMD Varicap BB515B SOD123 SUP8	SMD Varicap BB515B SOD123 SUP8
D003	41275	SMD Varicap BB515B SOD123 SUP8	SMD Varicap BB515B SOD123 SUP8
D301	45015	SMD 2xSKY Diode BAT74 SOT143	SMD 2xSKY diode BAT74 SOT143
D302	32642	SMD Doppeldiode BAV99 SOT23	SMD diodes (two) BAV99 SOT23
D303	45422	SMD LED LN1251CAL	SMD LED LN1251CAL
D304	45422	SMD LED LN1251CAL	SMD LED LN1251CAL
D305	45422	SMD LED LN1251CAL	SMD LED LN1251CAL
D306	45422	SMD LED LN1251CAL	SMD LED LN1251CAL
D307	45422	SMD LED LN1251CAL	SMD LED LN1251CAL
D308	45047	SMD SKY Diode BAT54 SOT23 SUP8	SMD SKY diode BAT54 SOT23 SUP8
D309	40350	SMD Schottky-Diode D1FS4 ROE	SMD Schottky diode D1FS4 ROE
D310	40350	SMD Schottky-Diode D1FS4 ROE	SMD Schottky diode D1FS4 ROE
F101	40588	Keramik-Filter 10,7MHz	Ceramic filter 10,7MHz
F102	40588	Keramik-Filter 10,7MHz	Ceramic filter 10,7MHz
F103	40588	Keramik-Filter 10,7MHz	Ceramic filter 10,7MHz
F201	40588	Keramik-Filter 10,7MHz	Ceramic filter 10,7MHz
F202	40588	Keramik-Filter 10,7MHz	Ceramic filter 10,7MHz
F203	40588	Keramik-Filter 10,7MHz	Ceramic filter 10,7MHz
J301	40452	Federleiste	Spring strip
J302	45409	Hohlklinkenbuchse	Jack bush
J303	22066	Klinkenbuchse 3,5mm, Stereo	Jack socket 3.5mm, stereo
J304	40452	Federleiste	Spring strip
J305	45297	Buchse LEM3	Socket LEM3
K301	40341	Miniatur Relais	Miniatur relais
L001	43636	SMD Spule 560nH	SMD coil 560nH
L002	43961	HF Spule	RF coil
L003	40091	SMD Spule 820nH	SMD coil 820nH
L004	41306	SMD Spule 270nH	SMD coil 270nH
L005	37358	SMD Spule 220nH	SMD coil 220nH
L101	48184	HF Spule	RF coil
L102	48153	HF Spule	RF coil
L103	48153	HF Spule	RF coil
L104	48184	HF Spule	RF coil
L105A	48153	HF Spule 450-702MHz	RF coil 450-702MHz
L105B	25043	Spule 678-960MHz	Coil 678-960MHz
L106	48153	HF Spule	RF coil
L106A	48153	HF Spule 450-702MHz	RF coil 450-720MHz
L106B	25043	Spule 678-960MHz	Coil 678-960MHz
L107	48184	HF Spule	RF coil
L108	45237	HF-Spule 100MHz	RF coil 100MHz
L109	45237	HF-Spule 100MHz	RF coil 100MHz
L110	45237	HF-Spule 100MHz	RF coil 100MHz
L111	45237	HF-Spule 100MHz	RF coil 100MHz
L112	36882	HF-Spule	RF coil
L151	41306	SMD Spule 270nH	SMD coil 270nH
L152	48155	HF Spule	RF coil
L201	48184	HF Spule	RF coil
L202	48153	HF Spule	RF coil
L203	48153	HF Spule	RF coil
L204	48184	HF Spule	RF coil
L205A	48153	HF Spule 450-702MHz	RF coil 450-702MHz
L205B	25043	Spule 678-960MHz	Coil 678-960MHz
L206	48153	HF Spule	RF coil
L206A	48153	HF Spule 450-702MHz	RF coil 450-720MHz
L206B	25043	Spule 678-960MHz	Coil 678-960MHz
L207	48184	HF Spule	RF coil
L208	45237	HF-Spule 100MHz	RF coil 100MHz
L209	45237	HF-Spule 100MHz	RF coil 100MHz
L210	45237	HF-Spule 100MHz	RF coil 100MHz
L211	45237	HF-Spule 100MHz	RF coil 100MHz

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L212	36882	HF-Spule	RF coil
L301	47711	HF-Spule	RF coil
L302	47710	HF-Spule	RF coil
L303	46341	SMD Spule 18uH	SMD coil 18uH
L304	46341	SMD Spule 18uH	SMD coil 18uH
L305	37358	SMD Spule 220nH	SMD coil 220nH
L306	46341	SMD Spule 18uH	SMD coil 18uH
L307	46341	SMD Spule 18uH	SMD coil 18uH
P101	45298	Buchse 50R	Socket 50R
P201	45298	Buchse 50R	Socket 50R
P301	40451	Stiftleiste	Edge connector
P302	40451	Stiftleiste	Edge connector
Q001	32468	SMD Transistor BC860B SOT23	SMD transistor BC860B SOT23
Q002	41278	SMD Transistor BFR93A SOT23	SMD transistor BFR93A SOT23
Q003	43663	SMD Transistor BFG67/X SOT143	SMD transistor BFG67/X SOT143
Q101	40851	SMD FET S933T	SMD FET S933T
Q102	45156	SMD MOSFET CF739 SOT143	SMD MOSFET CF739 SOT143
Q103	40782	SMD FET SST309	SMD FET SST309
Q104	21165	SMD Transistor BC850C SOT23	SMD transistor BC850C SOT23
Q105	24134	SMD Transistor BFS20, SOT23	SMD transistor BFS20 SOT23
Q151	24134	SMD Transistor BFS20, SOT23	SMD transistor BFS20 SOT23
Q201	40851	SMD FET S933T	SMD FET S933T
Q202	45156	SMD MOSFET CF739 SOT143	SMD MOSFET CF739 SOT143
Q203	40782	SMD FET SST309	SMD FET SST309
Q204	21165	SMD Transistor BC850C SOT23	SMD transistor BC850C SOT23
Q205	24134	SMD Transistor BFS20, SOT23	SMD transistor BFS20 SOT23
Q301	32467	SMD Transistor BC850B SOT 23	SMD transistor BC850B SOT23
Q302	32467	SMD Transistor BC850B SOT 23	SMD transistor BC850B SOT23
Q303	32468	SMD Transistor BC860B SOT23	SMD transistor BC860B SOT23
Q304	32468	SMD Transistor BC860B SOT23	SMD transistor BC860B SOT23
Q305	32468	SMD Transistor BC860B SOT23	SMD transistor BC860B SOT23
Q306	32467	SMD Transistor BC850B SOT 23	SMD transistor BC850B SOT23
Q307	40353	SMD Transistor BC868 SOT89	SMD transistor BC868 SOT89
R001	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R002	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R003	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R004	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R005	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R006	45140	SMD Widerstand 22k 5% 0603 (MOQ:50x)	SMD resistor 22k 5% 0603 (MOQ:50x)
R007	45140	SMD Widerstand 22k 5% 0603 (MOQ:50x)	SMD resistor 22k 5% 0603 (MOQ:50x)
R008	45134	SMD Widerstand 2k2 5% 0603 (MOQ:50x)	SMD resistor 2k2 5% 0603 (MOQ:50x)
R009	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R010	45141	SMD Widerstand 33k 5% 0603 (MOQ:50x)	SMD resistor 33k 5% 0603 (MOQ:50x)
R011	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R012	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R013	45132	SMD Widerstand 1k 5% 0603 (MOQ:50x)	SMD resistor 1k 5% 0603 (MOQ:50x)
R014	45290	SMD Widerstand 820k 5% 0603 (MOQ:50x)	SMD resistor 820k 5% 0603 (MOQ:50x)
R015	45243	SMD Widerstand 10M 5% 0805 (MOQ:50x)	SMD resistor 10M 5% 0805 (MOQ:50x)
R016	45148	SMD Widerstand 470k 5% 0603 (MOQ:50x)	SMD resistor 470k 5% 0603 (MOQ:50x)
R017	45148	SMD Widerstand 470k 5% 0603 (MOQ:50x)	SMD resistor 470k 5% 0603 (MOQ:50x)
R018	45292	SMD Widerstand 3M3 10% 0603 (MOQ:50x)	SMD resistor 3M3 10% 0603 (MOQ:50x)
R019	45136	SMD Widerstand 4k7 5% 0603 (MOQ:50x)	SMD resistor 4k7 5% 0603 (MOQ:50x)
R020	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R021	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R022	45136	SMD Widerstand 4k7 5% 0603 (MOQ:50x)	SMD resistor 4k7 5% 0603 (MOQ:50x)
R023	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R024	45133	SMD Widerstand 3k3 5% 0603 (MOQ:50x)	SMD resistor 3k3 5% 0603 (MOQ:50x)
R025	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R026	45132	SMD Widerstand 1k 5% 0603 (MOQ:50x)	SMD resistor 1k 5% 0603 (MOQ:50x)
R027	45135	SMD Widerstand 3k3 5% 0603 (MOQ:50x)	SMD resistor 3k3 5% 0603 (MOQ:50x)
R028	45212	SMD Widerstand 2k7 5% 0603 (MOQ:50x)	SMD Widerstand 2k7 5% 0603 (MOQ:50x)
R029	45137	SMD Widerstand 6k8 5% 0603 (MOQ:50x)	SMD resistor 6k8 5% 0603 (MOQ:50x)
R030	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R031	45122	SMD Widerstand 22R 5% 0603 (MOQ:50x)	SMD resistor 22R 5% 0603 (MOQ:50x)
R032	45204	SMD Widerstand 120R 5% 0603 (MOQ:50x)	SMD resistor 120R 5% 0603 (MOQ:50x)
R033	45125	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R034	45132	SMD Widerstand 1k 5% 0603 (MOQ:50x)	SMD resistor 1k 5% 0603 (MOQ:50x)
R035	45120	SMD Widerstand 10R 5% 0603 (MOQ:50x)	SMD resistor 10R 5% 0603 (MOQ:50x)
R036	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R037	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R038	45120	SMD Widerstand 10R 5% 0603 (MOQ:50x)	SMD resistor 10R 5% 0603 (MOQ:50x)
R041	45130	SMD Widerstand 470R 5% 0603 (MOQ:50x)	SMD resistor 470R 5% 0603 (MOQ:50x)
R042	45137	SMD Widerstand 6k8 5% 0603 (MOQ:50x)	SMD resistor 6k8 5% 0603 (MOQ:50x)

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R101	45204	SMD Widerstand 120R 5% 0603 (MOQ:50x)	SMD resistor 120R 5% 0603 (MOQ:50x)
R102	45136	SMD Widerstand 4k7 5% 0603 (MOQ:50x)	SMD resistor 4k7 5% 0603 (MOQ:50x)
R105	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R106	45135	SMD Widerstand 3k3 5% 0603 (MOQ:50x)	SMD resistor 3k3 5% 0603 (MOQ:50x)
R107	45132	SMD Widerstand 1k 5% 0603 (MOQ:50x)	SMD resistor 1k 5% 0603 (MOQ:50x)
R108	45221	SMD Widerstand 82k 5% 0603 (MOQ:50x)	SMD resistor 82k 5% 0603 (MOQ:50x)
R109	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R110	45132	SMD Widerstand 1k 5% 0603 (MOQ:50x)	SMD resistor 1k 5% 0603 (MOQ:50x)
R111	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R112	45131	SMD Widerstand 680R 5% 0603 (MOQ:50x)	SMD resistor 680R 5% 0603 (MOQ:50x)
R113	45128	SMD Widerstand 220R 5% 0603 (MOQ:50x)	SMD resistor 220R 5% 0603 (MOQ:50x)
R114	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R115	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R116	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R117	45220	SMD Widerstand 56k 5% 0603 (MOQ:50x)	SMD resistor 56k 5 % 0603 (MOQ:50x)
R118	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R119	45131	SMD Widerstand 680R 5% 0603 (MOQ:50x)	SMD resistor 680R 5% 0603 (MOQ:50x)
R120	45129	SMD Widerstand 330R 5% 0603 (MOQ:50x)	SMD resistor 330R 5% 0603 (MOQ:50x)
R121	45129	SMD Widerstand 330R 5% 0603 (MOQ:50x)	SMD resistor 330R 5% 0603 (MOQ:50x)
R122	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R123	45144	SMD Widerstand 100k 5% 0603 (MOQ:50x)	SMD resistor 100k 5% 0603 (MOQ:50x)
R124	45131	SMD Widerstand 680R 5% 0603 (MOQ:50x)	SMD resistor 680R 5% 0603 (MOQ:50x)
R125	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R126	45207	SMD Widerstand 390R 5% 0603 (MOQ:50x)	SMD Widerstand 390R 5% 0603 (MOQ:50x)
R127	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R128	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x) 678-960MHz	SMD resistor 10k 5% 0603 (MOQ:50x) 678-960MHz
R129	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x) 450-702MHz	SMD resistor 10k 5% 0603 (MOQ:50x) 450-702MHz
R151	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R152	45219	SMD Widerstand 39k 5% 0603 (MOQ:50x)	SMD resistor 39k 5% 0603 (MOQ:50x)
R153	45215	SMD Widerstand 8k2 5% 0603 (MOQ:50x)	SMD resistor 8k2 5% 0603 (MOQ:50x)
R154	45128	SMD Widerstand 220R 5% 0603 (MOQ:50x)	SMD resistor 220R 5% 0603 (MOQ:50x)
R172	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R201	45204	SMD Widerstand 120R 5% 0603 (MOQ:50x)	SMD resistor 120R 5% 0603 (MOQ:50x)
R202	45136	SMD Widerstand 4k7 5% 0603 (MOQ:50x)	SMD resistor 4k7 5% 0603 (MOQ:50x)
R205	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R206	45135	SMD Widerstand 3k3 5% 0603 (MOQ:50x)	SMD resistor 3k3 5% 0603 (MOQ:50x)
R207	45132	SMD Widerstand 1k 5% 0603 (MOQ:50x)	SMD resistor 1k 5% 0603 (MOQ:50x)
R208	45221	SMD Widerstand 82k 5% 0603 (MOQ:50x)	SMD resistor 82k 5% 0603 (MOQ:50x)
R209	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R210	45132	SMD Widerstand 1k 5% 0603 (MOQ:50x)	SMD resistor 1k 5% 0603 (MOQ:50x)
R211	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R212	45131	SMD Widerstand 680R 5% 0603 (MOQ:50x)	SMD resistor 680R 5% 0603 (MOQ:50x)
R213	45128	SMD Widerstand 220R 5% 0603 (MOQ:50x)	SMD resistor 220R 5% 0603 (MOQ:50x)
R214	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R215	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R216	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R217	45220	SMD Widerstand 56k 5% 0603 (MOQ:50x)	SMD resistor 56k 5 % 0603 (MOQ:50x)
R218	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R219	45131	SMD Widerstand 680R 5% 0603 (MOQ:50x)	SMD resistor 680R 5% 0603 (MOQ:50x)
R220	45129	SMD Widerstand 330R 5% 0603 (MOQ:50x)	SMD resistor 330R 5% 0603 (MOQ:50x)
R221	45129	SMD Widerstand 330R 5% 0603 (MOQ:50x)	SMD resistor 330R 5% 0603 (MOQ:50x)
R222	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R223	45144	SMD Widerstand 100k 5% 0603 (MOQ:50x)	SMD resistor 100k 5% 0603 (MOQ:50x)
R224	45131	SMD Widerstand 680R 5% 0603 (MOQ:50x)	SMD resistor 680R 5% 0603 (MOQ:50x)
R225	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R226	45207	SMD Widerstand 390R 5% 0603 (MOQ:50x)	SMD Widerstand 390R 5% 0603 (MOQ:50x)
R227	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R228	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x) 678-960MHz	SMD resistor 10k 5% 0603 (MOQ:50x) 678-960MHz
R229	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x) 450-702MHz	SMD resistor 10k 5% 0603 (MOQ:50x) 450-702MHz
R301	45144	SMD Widerstand 100k 5% 0603 (MOQ:50x)	SMD resistor 100k 5% 0603 (MOQ:50x)
R302	45144	SMD Widerstand 100k 5% 0603 (MOQ:50x)	SMD resistor 100k 5% 0603 (MOQ:50x)
R303	45132	SMD Widerstand 1k 5% 0603 (MOQ:50x)	SMD resistor 1k 5% 0603 (MOQ:50x)
R304	45431	SMD Trimmwiderstand 10k	SMD resistor, variable 10k
R305	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R306	45136	SMD Widerstand 4k7 5% 0603 (MOQ:50x)	SMD resistor 4k7 5% 0603 (MOQ:50x)
R307	45214	SMD Widerstand 5k6 5% 0603 (MOQ:50x)	SMD resistor 5k6 5% 0603 (MOQ:50x)
R308	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R309	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R310	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)

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R311	45144	SMD Widerstand 100k 5% 0603 (MOQ:50x)	SMD resistor 100k 5% 0603 (MOQ:50x)
R312	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R313	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R314	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R315	45431	SMD Trimmwiderstand 10k	SMD resistor, variable 10k
R316	45144	SMD Widerstand 100k 5% 0603 (MOQ:50x)	SMD resistor 100k 5% 0603 (MOQ:50x)
R317	45144	SMD Widerstand 100k 5% 0603 (MOQ:50x)	SMD resistor 100k 5% 0603 (MOQ:50x)
R318	45431	SMD Trimmwiderstand 10k	SMD resistor, variable 10k
R319	45132	SMD Widerstand 1k 5% 0603 (MOQ:50x)	SMD resistor 1k 5% 0603 (MOQ:50x)
R320	45136	SMD Widerstand 4k7 5% 0603 (MOQ:50x)	SMD resistor 4k7 5% 0603 (MOQ:50x)
R321	45214	SMD Widerstand 5k6 5% 0603 (MOQ:50x)	SMD resistor 5k6 5% 0603 (MOQ:50x)
R322	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R323	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R324	45144	SMD Widerstand 100k 5% 0603 (MOQ:50x)	SMD resistor 100k 5% 0603 (MOQ:50x)
R325	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R326	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R327	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R328	45431	SMD Trimmwiderstand 10k	SMD resistor, variable 10k
R329	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R330	45134	SMD Widerstand 2k2 5% 0603 (MOQ:50x)	SMD resistor 2k2 5% 0603 (MOQ:50x)
R331	45134	SMD Widerstand 2k2 5% 0603 (MOQ:50x)	SMD resistor 2k2 5% 0603 (MOQ:50x)
R332	45134	SMD Widerstand 2k2 5% 0603 (MOQ:50x)	SMD resistor 2k2 5% 0603 (MOQ:50x)
R333	45148	SMD Widerstand 470k 5% 0603 (MOQ:50x)	SMD resistor 470k 5% 0603 (MOQ:50x)
R334	45136	SMD Widerstand 4k7 5% 0603 (MOQ:50x)	SMD resistor 4k7 5% 0603 (MOQ:50x)
R335	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R336	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R337	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R338	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R339	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R340	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R341	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R342	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R344	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R345	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R346	45134	SMD Widerstand 2k2 5% 0603 (MOQ:50x)	SMD resistor 2k2 5% 0603 (MOQ:50x)
R348	45148	SMD Widerstand 470k 5% 0603 (MOQ:50x)	SMD resistor 470k 5% 0603 (MOQ:50x)
R349	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R350	45151	SMD Widerstand 2M2 10% 0603 (MOQ:50x)	SMD resistor 2M2 10% 0603 (MOQ:50x)
R351	45132	SMD Widerstand 1k 5% 0603 (MOQ:50x)	SMD resistor 1k 5% 0603 (MOQ:50x)
R352	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R353	45119	Trimmwiderstand 2k2	Resistor variable 2k2
R354	45430	SMD Trimmwiderstand 1k	SMD resistor, variable 1k
R355	45137	SMD Widerstand 6k8 5% 0603 (MOQ:50x)	SMD resistor 6k8 5% 0603 (MOQ:50x)
R356	45134	SMD Widerstand 2k2 5% 0603 (MOQ:50x)	SMD resistor 2k2 5% 0603 (MOQ:50x)
R357	45134	SMD Widerstand 2k2 5% 0603 (MOQ:50x)	SMD resistor 2k2 5% 0603 (MOQ:50x)
R358	45148	SMD Widerstand 470k 5% 0603 (MOQ:50x)	SMD resistor 470k 5% 0603 (MOQ:50x)
R359	45150	SMD Widerstand 1M 5% 0603 (MOQ:50x)	SMD resistor 1M 5% 0603 (MOQ:50x)
R360	45150	SMD Widerstand 1M 5% 0603 (MOQ:50x)	SMD resistor 1M 5% 0603 (MOQ:50x)
R361	45431	SMD Trimmwiderstand 10k	SMD resistor, variable 10k
R362	45134	SMD Widerstand 2k2 5% 0603 (MOQ:50x)	SMD resistor 2k2 5% 0603 (MOQ:50x)
R363	45220	SMD Widerstand 56k 5% 0603 (MOQ:50x)	SMD resistor 56k 5 % 0603 (MOQ:50x)
R364	45148	SMD Widerstand 470k 5% 0603 (MOQ:50x)	SMD resistor 470k 5% 0603 (MOQ:50x)
R365	45137	SMD Widerstand 6k8 5% 0603 (MOQ:50x)	SMD resistor 6k8 5% 0603 (MOQ:50x)
R366	45137	SMD Widerstand 6k8 5% 0603 (MOQ:50x)	SMD resistor 6k8 5% 0603 (MOQ:50x)
R367	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R368	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R369	45214	SMD Widerstand 5k6 5% 0603 (MOQ:50x)	SMD resistor 5k6 5% 0603 (MOQ:50x)
R370	45140	SMD Widerstand 22k 5% 0603 (MOQ:50x)	SMD resistor 22k 5% 0603 (MOQ:50x)
R371	45140	SMD Widerstand 22k 5% 0603 (MOQ:50x)	SMD resistor 22k 5% 0603 (MOQ:50x)
R372	45120	SMD Widerstand 10R 5% 0603 (MOQ:50x)	SMD resistor 10R 5% 0603 (MOQ:50x)
R373	45213	SMD Widerstand 3k9 5% 0603 (MOQ:50x)	SMD resistor 3k9 5% 0603 (MOQ:50x)
R374	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R375	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R376	45132	SMD Widerstand 1k 5% 0603 (MOQ:50x)	SMD resistor 1k 5% 0603 (MOQ:50x)
R377	45141	SMD Widerstand 33k 5% 0603 (MOQ:50x)	SMD resistor 33k 5% 0603 (MOQ:50x)
R378	45243	SMD Widerstand 10M 5% 0805 (MOQ:50x)	SMD resistor 10M 5% 0805 (MOQ:50x)
R379	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R380	45216	SMD Widerstand 12k 5% 0603 (MOQ:50x)	SMD resistor 12k 5% 0603 (MOQ:50x)
R381	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R382	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R383	45132	SMD Widerstand 1k 5% 0603 (MOQ:50x)	SMD resistor 1k 5% 0603 (MOQ:50x)
R384	45143	SMD Widerstand 68k 5% 0603 (MOQ:50x)	SMD resistor 68k 5% 0603 (MOQ:50x)
R385	45140	SMD Widerstand 22k 5% 0603 (MOQ:50x)	SMD resistor 22k 5% 0603 (MOQ:50x)

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R386	45119	Trimmwiderstand 2k2	Resistor variable 2k2
R387	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R388	45220	SMD Widerstand 56k 5% 0603 (MOQ:50x)	SMD resistor 56k 5 % 0603 (MOQ:50x)
R389	45135	SMD Widerstand 3k3 5% 0603 (MOQ:50x)	SMD resistor 3k3 5% 0603 (MOQ:50x)
R390	45207	SMD Widerstand 390R 5% 0603 (MOQ:50x)	SMD Widerstand 390R 5% 0603 (MOQ:50x)
R391	45207	SMD Widerstand 390R 5% 0603 (MOQ:50x)	SMD Widerstand 390R 5% 0603 (MOQ:50x)
R392	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R393	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R394	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R395	45123	SMD Widerstand 33R 5% 0603 (MOQ:50x)	SMD resistor 33R 5% 0603 (MOQ:50x)
R396	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R397	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R398	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R399	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R400	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R401	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R402	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R403	45212	SMD Widerstand 2k7 5% 0603 (MOQ:50x)	SMD Widerstand 2k7 5% 0603 (MOQ:50x)
R404	45219	SMD Widerstand 39k 5% 0603 (MOQ:50x)	SMD resistor 39k 5% 0603 (MOQ:50x)
R405	45136	SMD Widerstand 4k7 5% 0603 (MOQ:50x)	SMD resistor 4k7 5% 0603 (MOQ:50x)
R406	45136	SMD Widerstand 4k7 5% 0603 (MOQ:50x)	SMD resistor 4k7 5% 0603 (MOQ:50x)
R407	45139	SMD Widerstand 15k 5% 0603 (MOQ:50x)	SMD resistor 15k 5% 0603 (MOQ:50x)
R408	45217	SMD Widerstand 18k 5% 0603 (MOQ:50x)	SMD resistor 18k 5% 0603 (MOQ:50x)
R409	45140	SMD Widerstand 22k 5% 0603 (MOQ:50x)	SMD resistor 22k 5% 0603 (MOQ:50x)
R410	45217	SMD Widerstand 18k 5% 0603 (MOQ:50x)	SMD resistor 18k 5% 0603 (MOQ:50x)
R411	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R412	45138	SMD Widerstand 10k 5% 0603 (MOQ:50x)	SMD resistor 10k 5% 0603 (MOQ:50x)
R413	45137	SMD Widerstand 6k8 5% 0603 (MOQ:50x)	SMD resistor 6k8 5% 0603 (MOQ:50x)
R414	45431	SMD Trimmwiderstand 10k	SMD resistor, variable 10k
R415	45215	SMD Widerstand 8k2 5% 0603 (MOQ:50x)	SMD resistor 8k2 5% 0603 (MOQ:50x)
R416	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x)	SMD resistor 47k 5% 0603 (MOQ:50x)
R417	45147	SMD Widerstand 330k 5% 0603 (MOQ:50x)	SMD resistor 330k 5% 0603 (MOQ:50x)
R418	45285	SMD Widerstand 56R 5% 0603 (MOQ:50x)	SMD resistor 56R 5% 0603 (MOQ:50x)
R419	45128	SMD Widerstand 220R 5% 0603 (MOQ:50x)	SMD resistor 220R 5% 0603 (MOQ:50x)
R420	45414	SMD Widerstand MELF 0R22 5% 0204 (MOQ:50x)	SMD resistor MELF 0R22 5% 0204 (MOQ:50x)
R421	45126	SMD Widerstand 100R 5% 0603 (MOQ:50x)	SMD resistor 100R 5% 0603 (MOQ:50x)
R430	45144	SMD Widerstand 100k 5% 0603 (MOQ:50x)	SMD resistor 100k 5% 0603 (MOQ:50x)
R431	45432	SMD Trimmwiderstand 50k	SMD resistor, variable 50k
R432	45218	SMD Widerstand 27k 5% 0603 (MOQ:50x)	SMD resistor 27k 5% 0603 (MOQ:50x)
R800	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x) 450-960MHz	SMD resistor 47k 5% 0603 (MOQ:50x) 450-960MHz
R801	45142	SMD Widerstand 47k 5% 0603 (MOQ:50x) 678-960MHz	SMD resistor 47k 5% 0603 (MOQ:50x) 678-960MHz
S001	45611	Codierschalter	Code switch
S002	45486	Schiebeschalter	Slide switch
S301	45486	Schiebeschalter	Slide switch
S302	45486	Schiebeschalter	Slide switch
T103	43989	HF-Spule	RF coil
T151	45011	HF-Autotrafo 10MHz/1GHz	RF transformer 10MHz/1GHz
T203	43989	HF-Spule	RF coil
T301	45497	Transformator, NF 1:1 SYM/SYM	Transformator, RF 1:1 SYM/SYM
TR101	45428	SMD-Baluntransformator	SMD balun transformer
TR102	45428	SMD-Baluntransformator	SMD balun transformer
TR201	45428	SMD-Baluntransformator	SMD balun transformer
TR202	45428	SMD-Baluntransformator	SMD balun transformer
U001	40094	IC LP2950ACZ	IC LP2950ACZ
U002	40095	IC PROM 1Kx4 N82S129N	IC PROM 1Kx4 N82S129N
U003	40096	IC PLL TDD1742T SO28	IC PLL TDD1742T SO28
U004	40093	SMD IC HEF4030BT SO14	SMD IC HEF4030BT SO14
U005	45366	SMD IC MB501SLPF SOL8	SMD IC MB501SLPF SOL8
U006	41277	SMD IC MC33078D SO8 SUP8	SMD IC MC33078D SO8 SUP8
U101	44138	SMD IC GN2011QTX	SMD IC GN2011QTX
U102	40874	SMD IC NE604AD	SMD IC NE604AD
U201	44138	SMD IC GN2011QTX	SMD IC GN2011QTX
U202	40874	SMD IC NE604AD	SMD IC NE604AD
U301	40099	SMD IC TL072CD SO8	SMD IC TL072CD SO8
U302	29114	IC 358-S08-0/70	IC 358-S08-0/70
U303	29114	IC 358-S08-0/70	IC 358-S08-0/70
U304	29114	IC 358-S08-0/70	IC 358-S08-0/70
U305	29114	IC 358-S08-0/70	IC 358-S08-0/70
U306	17656	IC 393 S08 0/70	IC 393 S08 0/70
U307	45037	IC HCMOS 74HC4066	IC HCMOS 74HC4066
U308	40099	SMD IC TL072CD SO8	SMD IC TL072CD SO8

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U309	45093	SMD IC NE572D SOL16	SMD IC NE572D SOL16
U310	41277	SMD IC MC33078D SO8 SUP8	SMD IC MC33078D SO8 SUP8
U311	41400	SMD IC TL071ID	SMD IC TL071ID
U312	41277	SMD IC MC33078D SO8 SUP8	SMD IC MC33078D SO8 SUP8
U313	17656	IC 393 S08 0/70	IC 393 S08 0/70
U314	45036	IC LM3578AM	IC LM3578AM
U315	40092	IC LP2951ACM	IC LP2951ACM
Y001	40117	Quarz 6000,000kHz	Crystal 6000.000kHz
Y151	45546	Quarz 114,3000MHz	Crystal 114.3000MHz