ROHDE&SCHWARZ

Communications Division

Repair Manual

1 - kW HF TRANSCEIVER XK 859C1

680.1210

VOLUME 3

Manual consists of 4 volumes

673.4499.62.05 - 5

Repair Manual

1 - kW HF TRANSCEIVER
XK 859C1

consisting of:

Volumes 1 and 2

RECEIVER / EXCITER GX 859C1

Volume 3

1 - kW HF POWER AMPLIFIER VK 859C1

and

RACK, STATIONARY KG 859C4

Volume 4

POWER SUPPLY IN 859C1

and

POWER SUPPLY IN 859C2

Volume 3

Repair Manual

1 - kW HF TRANSCEIVER
XK 859C1

1 - kW HF POWER AMPLIFIER
VK 859C1

RACK, STATIONARY
KG 859C4

673.4499.62.02 - 11 / 12

ROHDE&SCHWARZ

Communications Division

Repair Manual

HF POWER AMPLIFIER
VK 859C1

680.6012.02 / .03 / .04 / .12 / .13 / .14 / .22 / .23 / .24

673 4382.62 05 - 1

List of Contents

Note: These chapters are contained in the relevant user manual.

5. Description of Function

6. Repair

List of Figures

Appendix
Circuit Diagrams, Parts Lists and Components Layouts

5. Description of Function

5.1 Amplifier Control

See circuit diagram 680.7019.01S, sheets 1 to 3.

The main task of the amplifier control is - as a function of digital controlling quantities on the data bus and measured amplifier parameters - that of producing an output quantity which regulates the output power of the HF signal in the exciter. The amplifier control also switches the blowers in the power amplifier section and forwards BITE signals to the exciter.

For the control of the harmonic filter, data lines D0 to D2 are directly connected through via RC networks from connector X1, contacts B1, B2 and B3, to connector X17, contacts A5, B5 and A6.

Data lines D3 to D5 contain the information for setting the power. This is applied via RC networks to the input of the BCD / decimal decoder. A "0" state on the data bus controls the cutting in of the 10-dB attenuator in preamplifier A20 and sets the power stage to 100 W. Here the signal is applied directly via connector X12, contact 3 to the preamplifier. A "1" state switches the control circuit to 250 W. The "2" state sets the forward power to 1 kW. If neither a "1" state nor a "2" state appears, the gain factor of operational amplifier N7, contact 1 is altered via NOR gate D19, contact 10 and transistor V30, resistor R31 and diode V32. Thus the influence of the magnitude of the forward wave on the peak-responding regulation is also altered.

If a "3" state appears on the output of BCD / decimal decoder D18, the preamplifier is cut out for test purposes via gate D1, contact 11. The 500-W output stage A40 is cut out via gate D1, contact 3 and the 500-W output stage A30 via gate D1, contact 10. In addition, the ALC control voltage (X18.2) is shorted to zero potential by resistor R278 and transistor V216. Output states "4" and "7" of BCD / decimal decoder D18 separately cut in the 500-W output stages A40 and A30.

The preamplifier can only be switched on via gate D1, contact 11 and connector X12, contact 6 if the following conditions are satisfied. First, no test may be initiated as described above; second, there may be no carrier-inhibit signal on connector X1, contact A1; third, the transmit signal must be applied to connector X1, contact 2 and gate D2, contact 10 must switch over to high level; fourth, the overtemperature signal (ÜT), the occurrence of which is explained later, on gate D2, contact 12 must be high; fifth, the Tx / Rx control signal on connector X17, contact A4 must be high; sixth, gate D1, contact 4 must be high. This will only be the case if the two voltages V_{DS1} and V_{DS2} do not exceed their thresholds of 2.75 V and 1. 85 V respectively and the overvoltage signal (ÜS) is high. The overvoltage signal (ÜS) is high if the voltage that appears on connector X12, contacts 7 and 8 is not greater than 35 V and the operating voltages used in the 500-W output stages are not greater than 62.7 V. These operating voltages are reduced by a voltage divider and applied via connectors X13, contact 5 and X14, contact 5 as reference voltages V_{OP1} and V_{OP2}.

In the ISB and SSB classes of emission monostable multivibrator D15, contact 6 produces a high pulse of 6.8 ms as soon as V_{DS2} exceeds the given threshold for the first time after the rising edge on the transmit signal.

For precisely this interval of 6.8 ms the time constant of the average-responding regulation is reduced from 100 ms to 1 ms via switch D9, contacts 8 and 9.

The transmit signal on connector X1, contact A2 is delayed for 10 s upon switch-off by monostable multivibrator D15, contact 10 and gate D6, contact 10. Thus controlled by the two gates in D7, contacts 10 and 11 and transistors V100 and V101, blowers E2 and E1 continue to run for 10 s after transmitter switch-off for expelling the heat that remains.

The blower control unit is also governed by the signals TK1 (500-W output stage A30) on connector X13, contact 3, TK2 (500-W output stage A40) on connector X14, contact 3 and THC preamplifier on connector X12, contact 2. The blowers are switched on if TK1 or TK2 exceed the threshold of 1.25 V or THC preamplifier exceeds the threshold of 1.75 V. If TK1 goes over the threshold of 1.4 V or THC preamplifier goes over 2.2 V, there is switchover to the more powerful blower stage.

The internal overtemperature (ÜT) signal disables the operating points of the amplifier as soon as it becomes low.

This is always the case if the THC preamplifier signal (X12, contact 2) exceeds the threshold of 2.9 V, thus signalling excessive temperature in the preamplifier.

It also occurs if, approx. 1 ms after the rising edge of the transmit signal, the ÜT signal on connector X17, contact A2 is still low or becomes low later because of a fault in the harmonic filter.

The BITE temperature amplifier signal on connector X1, contact A13 goes low if either the ÜT signal is low or if TK1 or TK2 exceeds the threshold of 1.74 V.

The BITE output stage 1 signal is low if V_{CE2} is more than twice as large as V_{CE1} or if the failure 1 signal is low and thus indicates unbalance in the 500-W output stage A40. The BITE output stage 2 signal is low if V_{CE2} or the failure 2 signal is low and thus indicates unbalance in the 500-W output stage A30. Brief low states on these BITE lines are extended to at least 4.7 ms by monostable multivibrators D12, contact 7 and D12, contact 9.

The CM amplifier signal is low if at least one of the two signals BITE output stage 1 or BITE output stage 2 is low.

Fixed-voltage regulator N1 supplies a constant voltage as a function of the setting of potentiometer R69. This is set to 5.3 ±0.005 V and serves as a reference voltage for all threshold switches.

The power regulation is composed of the following regulation circuits:

1. I_{max} regulation
2. Average-responding regulation
3. Reflected-power regulation
4. Peak-responding regulation
5. Power dissipation regulation for
   - P_{D1} and
   - P_{D2}
6. VSWR feedback regulation.

The I_{max} regulation measures signals I_1 and I_2 on connectors X13, contact 4 and X14, contact 4 with operational amplifier N7, contact 8.

The signal for average-responding regulation is produced by operational amplifier N7, contact 14. The processing parameters of operational amplifier N7, contact 14 are matched to the setting of class of emission and power as a function of the following criteria:

- Power reference input LS;
- States of transistors V204 and V240, controlled by the classes of emission ISB or SSB, and thus the cutting into circuit of resistors R239 and R292;
- State of transistor V202, controlled by the strobe 5 signal;
- State of switch D9, driven by signal τ_{11}.

The reflected-power regulation is produced by the output signal of operational amplifier N8, contact 8, which derives the output quantity from the reflected signal on connector X17, contact A1. The reflected-power regulation limits the reflected power to approx. 130 W by reducing the output power.

The peak-responding regulation is performed by two successively active operational amplifiers. First, operational amplifier N7, contact 7 compares the power reference input PR to the "forward power" signal appearing on connector X17, contact A3. The difference is subsequently amplified by operational amplifier N7, contact 1. With this amplifier, however, the gain factor is altered by the gain-control signal VR as a function of the power set on the exciter.

The regulation of the power dissipation is divided into two paths, each containing two operational amplifiers and being of identical design. The power dissipation regulation P_{D1} with operational amplifier N6, contact 7 subtracts the sum of the two signals V_{OP1} and I_1, which appear on connector X13, contacts 3 and 4, from the forward power signal on connector X17, contact A3. It also amplifies the difference signal and applies it across resistor R204 to operational amplifier N6, contact 1. This is corrected on the positive input, contact 3, by the signal TK1. This is dependent on the temperature of the 500-W output stage.

The power dissipation regulation P_{D2} works like the power dissipation regulation P_{D1}. As input quantities it has, on the one hand, the forward power signal, on the other, the signals V_{OP2}, I_2 und TK2.

The sum of forward and weighted reflected voltage is held constant by reducing the output power by the VSWR feedback regulation. In general it reacts, starting at $s \geq 1.4$. On R349 the forward power is set to 550 W (-0 W, + 50 W).

Via diodes V203, V205 to V209 the regulation circuits are isolated so that, depending on the deviation of the control criterion, the regulation circuit with the highest voltage takes effect on this node.

Operational amplifier N8, contact 1 is the input amplifier for the regulator. The next operational amplifiers N8, contact 7 and N9, contact 8 working in the control circuit ensure high DC gain in the control circuit and thus lower long-term deviation in all control criteria. Operational amplifier N9, contact 7 together with diode V218, resistor R276 and capacitor C107 forms the latching network. This means that capacitor C107 charges to the momentary control voltage. If an alteration in the control voltage occurs on operational amplifier N9, contact 8, then the operational amplifier N9, contact 14, compares the value of this voltage to a constant voltage. If the latter is exceeded, the 2-s timing network, consisting of resistor R273 and capacitor C108, is reset by diode V213. Thus, during this time, transistor V215 is switched off so that capacitor C107 cannot be discharged across resistor R277 and maintains the control voltage corresponding to the greatest deviation.

If operating mode CW1 or CW2 is selected, the switch-off of transistor V215 and thus the maintaining of the last deviation is prevented by diodes V219 and V211 respectively. If CW1 or CW2 is not selected, the discharge process does not begin again until 2 s after the last deviation because of the switching on of transistor V215, with the result that the HF power signal is again boosted. If the Strobe 5 signal appears on connector X1, contact A3, the regulation is reset to its basic state. For this purpose transistor V214 is switched through on the one hand so that capacitor C107 is discharged across resistor R275. On the other hand, the input of the control amplifier is inhibited by threshold switch N5, contact 8 and transistor V242, which switches a voltage of -15 V across resistor R252.

Operational amplifier N9, contact 1 is an impedance transformer for the high-impedance output of the latching network. Its output is shorted by transistor V216 when a test is conducted. This prevents the regulation from taking effect.

5.2 Preamplifier

See circuit diagram 680.8015.01S.

The preamplifier is a two-stage, broadband amplifier that boosts an input signal of 20 mW to an output signal of 2 x 14 W.

The input signal is applied to transistor V1 across capacitor C1 and resistor R1. Here it is amplified and fed via capacitor C6 to contact 13 of relay K10.

The drain voltage is fed to pre-stage transistor V1 by way of choke L5. The gate bias is set with potentiometer R4 and applied across resistors R5 and R6 to transistor V1. Coil L1 and resistor R3 in the feedback branch serve for optimizing the frequency response and capacitors C2 and C3 for isolation of DC potential. Resistor R2 balances the amplifier.

The HF signal is fed to transformer T10 of the following amplifier stage either directly or by way of a switchable 10-dB attenuator R10, R11, R12. There the signal is boosted by transistors V20A and V20B respectively. The gate voltages and thus the quiescent currents are set by the voltage dividers, resistors R24 and R27, and potentiometer R26 and R25 respectively and R30 as well as R31. Resistor R28 and coil L20 or R29 and L30 produce linearization of the gain in the frequency range by feeding the output signal of the transistor back to the input. Capacitors C21 to C26 are only for the purpose of preventing short circuits. The drain voltage is fed to transistors V20A and V20B by way of balance-to-unbalance transformer T20. The output signals of the two amplifier branches are combined by transformer T30 and conducted to the centre tap of branching transformer T40. The latter splits the signal to two identical 25-Ω outputs.

Transistor V72, controlled by the 10-dB logic signal of 5.3 V, switches relay K10, which cuts the 10-dB attenuator in or out of the HF path.

Constant-voltage source N1 produces a constant voltage of 10 V to supply the gates of transistors V1, V20A and V20B. The constant-voltage source and thus the entire preamplifier is switched on and off by the OP preamplifier signal on socket X12, contact 6 via transistors V81 and V80 and resistor R84.

The HF signal on terminal 7 of transformer T10 is applied across resistor R70 to rectifier V70. The rectified HF voltage is fed via operational amplifier N2 as V_{DS1} signal to socket X12, contact 4.

The temperature-dependent resistor R60, together with resistor R61, forms a voltage divider for the supply voltage of + 15 V. Thus a voltage appears on the non-inverting input 10 of operational amplifier N2 across resistors R62 and R66 that is likewise temperature-dependent. After amplification by operational amplifier N2, the THC preamplifier signal appears on socket X12, contact 2.

The HF signal on terminal 18 of transformer T30 is applied across resistor R50 to rectifier V50. The rectified HF voltage is fed via operational amplifier N2 as V_{DS2} signal to socket X12, contact 1.

5.3 500-W Output Stage

See circuit diagram 680.6112.01S, sheets 1 and 2.

The 500-W output stage is a power amplifier that boosts the power of the HF input signal to 500 W by means of four parallel push-pull amplifiers.

The HF input signal on connector X32 is fed via cable W1 and balance-to-unbalance transformers T1 to T3 to the input of each of the four push-pull amplifier stages, only one of which will be described as representative of the others.

The input of the first stage is formed initially of a matched attenuator in a tee configuration with resistors R100, R101 and R102. The HF signal is fed further to input transformer T100, which is corrected in frequency response by capacitors C100 and C101, resistor R111 and coil L100.

By way of matching networks and coupling capacitors the HF signal is then applied to the gates of power amplifier transistors V100A and V100B. The gate bias is fed via potentiometers R142 and R143, diodes V140 and V141 and resistors R140 and R141 to the transistors. The operating points of the power transistors and thus their quiescent current are set as a result of the setting of the gate bias on the potentiometers. The drain voltage of + 50 V is fed to the transistors via the output transformer, which has two secondary windings. One winding serves for supplying a feedback voltage to the gates of the transistors, while the other serves for producing an HF voltage that is a measure of the correct amplitude on the power transistors. This HF voltage is split by resistors R112 and R113, rectified by diode V102, filtered by capacitor C112 and fed to comparator stages for further processing.

The output of the power amplifier stage is formed by transformers T102 and T103, which combine the HF signals of the push-pull amplifiers, feeding them to test output X100 and balance-to-unbalance transformer T500. The latter adds the HF signals of two push-pull amplifiers up and conducts them to balance-to-unbalance transformer T501. The latter adds up the entire 500-W HF power and provides it at output socket X35.

The rectified HF voltages of the individual push-pull output stages are taken to the four operational amplifiers N1, configured as impedance converters. The positive output voltage of the impedance converters must be greater than the threshold voltage that is formed by the voltage divider, e. g. resistors R26 and R28, and becomes effective following diode V21. In further processing, each of theses voltages is compared to the next in magnitude. This means that the HF amplitude of push-pull amplifier stage 1 is compared to that of 2, stage 2 to that of 3 and stage 3 to that of 4. The output signals of comparators N3 to N5 are logic signals with positive logic. Thus, if all comparisons have a positive result, there will be levels of + 5.3 V on the outputs. These levels are logically combined by AND gates D1. On connector X31, contact 7 the failure logic signal will therefore appear, which is low if one of the push-pull amplifier stages is defective.

Constant-voltage source N6 produces a constant voltage of 7 V to supply the gates of power transistors V100A, V100B, V200A, V200B, V300A, V300B, V400A and V400B. The constant-voltage source and thus the entire 500-W ouput stage is switched on and off by the OP Mod signal on connector X31, contact 1, which is effective by way of transistors V71 and V70 and resistors R78 and R77.

The 500-W HF signal on terminal 36 / 37 of transformer T501 is also fed via capacitor C10 to rectifier V10 and filter capacitor C11, from there for filtering via resistor R10 and capacitor C12 and C504 to operational amplifier N2, input 5. N2 amplifies the signal, which then appears as V_{CE1} signal on connector X31, contact 2 as a measure of the overall amplitude of the HF.

For the power supply + 15 V is applied to connector X31, contacts 11 and 12, -15 V to contacts 9 and 10 and + 5.3 V to contacts 13 and 14. Contacts 15 and 16 are the signal and voltage ground as a low-voltage current.

The high-current ground is on connectors X33 and X30, contacts C, and the ground for 40 / 50 V is on X33 and X30, contacts A. This is the supply voltage of the power amplifiers. It is applied on the one hand via a voltage divider, resistors R96 and R95, as signal V_{OP1} to connector X31, contact 5, and on the other, after smoothing by capacitors C93 to C95, via precision resistor R97 to the power stages.

The voltage drop across the precision resistor is fed via a filter and matching network to operational amplifier N2, contacts 2 and 3. There it is amplified and conducted as signal I_1 to connector X31, contact 4. This signal is thus a direct measure of the power consumption of all four push-pull amplifier stages. Connected to X31, contact 3 is temperature-dependent resistor R81, which produces signal TK1.

5.4 Combiner

See circuit diagram 680.6764.01S.

The combiner has the task of combining the HF output signals of the two 500-W output stages and of feeding these signals to the harmonic filter. It furthermore matches the 25-Ω output impedance of the 500-W output stages to the 50-Ω input impedance of the harmonic filter.

5.5 Harmonic filter

See circuit diagram 680.7260.01S, sheets 1 and 2.

The harmonic filter is a lowpass filter with eight bands that are engaged according to the transmit frequency. A directional coupler in the harmonic filter measures the forward and reflected wave of the HF output signal and amplifies it.

The data are fed via connector X71, contacts A5, B5 and A6, π-shaped filter configurations of two capacitors and a choke to the inputs of BCD / decimal decoder D1. The outputs "0" to "7" are applied via the driver transistors of circuits D2 and D3 and connectors X2 and X7 to the two relay boards 1A2 and 1A7. There relays K201 to K208 and K701 to K708 respectively are driven. These relays switch the HF input or HF output to a band filter. Each of the filter assemblies A3, A4, A5 and A6 has, for decoupling reasons, two band filters with an internal distance of one band between them.

The filters are followed by a directional coupler which is formed of W200, L201 and capacitors C803 to C810. The forward wave is rectified by diode V801 and the reflected wave by V802. The rectified signal of the reflected wave is fed via filter and matching network L803, C30, R31, R34 and R35 to the non-inverting input of operational amplifier N1, contact 3.

A voltage is fed to the inverted input, contact 2 for reasons of temperature compensation, across resistors R23 and R81. This voltage is formed by voltage divider R32 and V803 and is a direct function of the temperature response of diode V803. The output signal for the reflected wave is fed from operational amplifier N1, contact 1 for filtering via a filter consisting of choke L41 and capacitor C46 to connector X71, contact A1.

Blower E1 is controlled by transistor V70. The latter is driven by operational amplifier N1, contact 14 via resistor R74. The operational amplifier works as a threshold switch. If contact B6 of connector X71 shows a high level, blower E1 is switched on and a high level is applied by transistor D3 to connector X71, contact A2 as overtemperature signal.

5.6 Options

Four modules are optionally available.

VK 859C1, Models 02, 03, 04

- Tx / Rx relays
  (Standard Tx / Rx switch, built-in until the end of 1992) or
- Tx / Rx reed relays
  (Standard Tx / Rx switch, built-in as of the end of 1992)

VK 859C1, Models 22, 23, 24

- Tx / Rx PIN diode switch I
  (extra fast Tx / Rx switch, built-in until the end of 1989) or
- Tx / Rx PIN diode switch II
  (extra fast Tx / Rx switch, built-in as of the beginning of 1990)

5.6.1 Tx / Rx Relay

See circuit diagram 680.9011.01S.

The Tx / Rx relay is used for connecting the antenna output of the HF amplifier either directly to the input in reception or in transmission to the 1-kW HF output of the harmonic filter

5.6.2 Tx / Rx Reed Relay

See circuit diagram 718.0321.01S.

The Tx / Rx reed relay is used for connecting the antenna output of the HF amplifier either directly to the input in reception or in transmission to the 1-kW HF output of the harmonic filter.

5.6.3 Tx / Rx PIN Diode Switch I

See circuit diagram 718.2301.01S.

The Tx / Rx PIN diode switch I has the task of connecting the antenna output of the HF amplifier either directly to the receive connector X81 in case of reception or to the 1-kW HF output of the harmonic filter in case of transmission.

Functionally the Tx / Rx PIN diode switch I can be divided into two parts. First into the PIN diode switch with Tx / Rx switching control and second into the voltage supply and monitoring circuit.

In transmission the HF signal is fed from the transmitter connection via C4 and via enabled PIN diode V27 to the antenna connection. At the same time PIN diode V28 is blocked by applying a 700-V voltage via choke L3 and PIN diode V29 becomes conductive via resistor R22 and choke L5. Thereby the 1-kW HF signal is prevented from reaching receiver connection X81. Capacitors C12, C13, C15 and C16 separate the DC paths.

In reception PIN diodes V27 and V29 are blocked whereby V28 becomes conductive. Switching between both conditions of the PIN diode switch is accomplished by the four field effect transistors V1 to V4. For this purpose either the 700-V voltage is through-connected by transistor V1 or V2 respectively or else the 12-V voltage by transistor V3 or V4, respectively.

The PTT signal on connector X782, contact A2 controls the switched states. V1 and V3 are driven directly and V2 and V4 are driven via inverter D1, contact 2. The circuitry of V1 and V3 is the same as that of V2 and V4. Therefore only V1 and V3 are described further on.

Via resistor R5 the PTT signal is fed to operational amplifier N1, contact 1, connected as an integrator. Operational amplifier N1 is used for delaying the cut-in and cut-out edges in such a way that two switched states are prevented from occurring at the same time. This in turn prevents the field effect transistors and the PIN diodes from being destroyed.

In addition the exceeding of a maximum transfer current of the PIN diodes is prevented by a current-limiting circuit. The voltage drop of R12 depending on the current flow drives transistor V3 via operational amplifier N1, contact 14 and integrator N1, contact 1 so that the maximum current is not exceeded. The current flow through V3 is limited to 1.04 A and through V4 to 822 mA due to the different values of resistors R12 and R21. Due to resistor R22 the current of 1.04 A is divided into approx. 900 mA for PIN diode V27 and 100 mA for V29. If transistors V3 and V4 are blocked, field effect transistors V1 and V2 are driven via the 700-kΩ substrate resistor R1 and thus switched through for the 700-V voltage. The gate control voltages of field effect transistors V1 and V2 are limited by Zener diodes V21, V22, V24, V25, V30 to V33.

Components C1 to C3, R2, R3 and V26 are used for voltage division, rectification and filtering of the HF signal at the antenna connection. They deliver the Tx / Rx monitoring signal at plug X782, contact B4 that is directly proportional to the voltage of the HF output signal. This signal is not processed any further in the HF Power Amplifier 1 kW VK 859C1.

The most important functional element of the power supply and monitoring circuit is the generation of the switching and blocking voltages for the PIN diodes, -12 V and +700 V. These voltages are generated by a voltage converter. The converter power transistors V8 and V9 are driven by J-K flipflop D9, contacts 9 and 10 via the TTL / C-MOS level converter D3, contacts 5 and 7. Switching control circuit N3, contact 3 supplies the controlling frequency of 140 kHz. The converter is further regulated by the modification value of the 700-V voltage and the current consumption value of the converter transistors so that the output voltage of the converter becomes independent of the load. The 700-V voltage is divided by resistor R38 and potentio-meter R39 and fed to switching control circuit N3, contact 1 via resistor R53. Integrator R51, R52 and C49 prevents overshooting of the 700-V voltage upon switch-on.

The voltage drop across resistors R34 and R35 is fed to switching control circuit N3, contact 4 via voltage divider R33, R48 for the current consumption control. Switching control circuit N3, contact 15 delivers a 140-kHz square-wave signal for control purposes. The pulse duty cycle of this signal is dependent on the control input values, the output voltage value and the current consumption. This signal controls transistor V6, transformer T1 and resistor R28 via J-K flipflop D2, contact 6, and switching transistor V5 via transistor V7.

All supply voltages are monitored so that, upon switch-on, and in case of malfunction no subsequent damage occurs due to undefined conditions of the PIN diode switching control.

The voltages of +28 V, +16 V, +5.3 V and -16 V are fed to the inputs of NAND gate D4 via voltage dividers. The outputs are gated by diodes V52 and V53 and drive transistor V11. In case of malfunction transistor V11 switches contact 9 of switching control circuit N3 to ground via diode V50. And thus the complete voltage converter is cut out.

5.6.4 Tx / Rx PIN Diode Switch II

(See circuit digram 625.8017.01S)

If the Tx / Rx PIN diode switch II is switched on in reception, it directly connects the antenna output to the receive connector X81. In transmission it directly connects the antenna output to the 1-kW HF output of the harmonic filter.

When being switched off or in case of malfunction when the -12-V voltage is not available, relay K1 separates the antenna from the Tx / Rx PIN diode switch II and switches it to ground. Thus provision is made for the protection of the PIN diodes from external HF power in the disconnected state.

Functionally the Tx / Rx PIN diode switch II can be divided into two parts. First into the PIN diode switch with Tx / Rx switching control and second into the power supply and voltage monitoring circuit.

In transmission the HF signal is fed from the transmitter connection via C4 and via enabled PIN diode V27A to the antenna connection. At the same time PIN diode V27B is blocked by applying a 700-V voltage via choke L3, and PIN diode V29 becomes conductive via resistor R22 and choke L5. Thereby the 1-kW HF signal is prevented from reaching receiver connection X81. Capacitors C12, C13 and C15, C16 separate the DC paths.

In reception PIN diodes V27A and V29 are blocked whereby V27B becomes conductive. Switching between both conditions of the PIN diode switch is accomplished by the four field effect transistors V1 to V4. For this purpose either the 700-V voltage is through-connected by transistor V1 or V2 respectively or else the 12-V voltage by transistor V3 or V4, respectively.

The PTT signal on connector X782, contact A2 controls the switched states. V1 and V3 are driven directly and V2 and V4 are driven via inverter D1, contact 2. The circuitry of V1 and V3 is the same as that of V2 and V4. Therefore only V1 and V3 are described further on.

Via voltage divider R4, R5 the PTT signal is fed to operational amplifier N1, contact 3, connected as an integrator. Operational amplifier N1 is used for delaying the cut-in and cut-out edges in such a way that two switched states are prevented from occurring at the same time. This in turn prevents the field effect transistors and the PIN diodes from being destroyed.

In addition the exceeding of a maximum transfer current of the PIN diodes is prevented by a current-limiting circuit. The voltage drop of R12 depending on the current flow drives transistor V3 via operational amplifier N1, contact 14 and integrator N1, contact 1 so that the maximum current is not exceeded. The current flow through V3 is limited to 1.04 A and through V4 to 822 mA due to the different values of resistors R12 and R21. Due to resistor R22 the current of 1.04 A is divided into approx. 900 mA for PIN diode V27A and 100 mA for V29. If transistors V3 and V4 are blocked, field effect transistors V1 and V2 are driven via the 700-kΩ substrate resistor R1 and thus switched through for the 700-V voltage. The gate control voltages of field effect transistors V1 and V2 are limited by Zener diodes V21, V22, V24, V25, V30 to V33.

Components C1 to C3, R2, R3 and V26 are used for voltage division, rectification and filtering of the HF signal at the antenna connection. They deliver the Tx / Rx monitoring signal at plug X782, contact B4 that is directly proportional to the voltage of the HF output signal. This signal is not processed any further in the HF Power Amplifier 1 kW VK 859C1.

The most important functional element of the power supply and monitoring circuit is the generation of the switching and blocking voltages for the PIN diodes, -12 V and +700 V. These voltages are generated by a voltage converter. The converter power transistors V8 and V9 are driven by J-K flipflop D9, contacts 9 and 10 via the TTL / C-MOS level converter D3, contacts 5 and 7. Switching control circuit N3, contact 3 supplies the controlling frequency of 140 kHz. The converter is further regulated by the modification value of the 700-V voltage and the current consumption value of the converter transistors so that the output voltage of the converter becomes independent of the load. The 700-V voltage is divided by resistors R38 and R70 as well as potentiometer R39 and fed to switching control circuit N3, contact 1 via resistor R53. Integrator R51, R52 and C49 prevents overshooting of the 700-V voltage upon switch-on.

The voltage drop across resistors R34 and R35 is fed to switching control circuit N3, contact 4 via voltage divider R33, R48 for the current consumption control. Switching control circuit N3, contact 15 delivers a 140-kHz square-wave signal for control purposes. The pulse duty cycle of this signal is dependent on the control input values, the output voltage value and the current consumption. This signal controls transistor V6, transformer T1 and resistor R28 via J-K flipflop D2, contact 6, and switching transistor V5 via transistor V7.

All supply voltages are monitored so that, upon switch-on, and in case of malfunction no subsequent damage occurs due to undefined conditions of the PIN diode switching control.

The voltages of +28 V, +16 V, +5.3 V and -16 V are fed to the inputs of NAND gate D4 via voltage dividers. The outputs are gated by diodes V52 and V53 and drive transistor V11. In case of malfunction transistor V11 switches contact 9 of switching control circuit N3 to ground via diode V50. And thus the complete voltage converter is cut out.

The current consumption of the converter transistors is also monitored. For this purpose the voltage drop across resistors R34 and R35 is applied to comparator input N4.8 via resistor R71 and filter capacitor C70. This voltage is compared to a nominal value which is applied to the second comparator input N4.9 via voltage dividers R72 and R73. If the nominal value is exceeded (e. g. in case of malfunction) the entire voltage converter is switched off via the inverted output of D flipflop D5.6. The switch-off is maintained until all supply voltages (+28 VDC, +16 VDC, +5.3 VDC and -16 VDC) have been switched on and off again.

5.7 Blower Control Units I and II

See circuit diagram 680.9411.01S for blower control unit I and circuit diagram 680.9292.01S for blower control unit II.

<u>*Note:*</u>

Blower control unit I was incorporated in the power amplifier until the end of 1990; and blower control unit II has been incorporated in the power amplifier since the end of 1990.

The blower control unit switches the ventilating capacity of blowers E1 and E2 as a function of the two control signals blower ST1 and ST2.

If a low level appears on connector X91, contact B1, relay K1 will switch through the 220-V supply voltage via contact K1. Thus both blowers E1 and E2 are switched on.

If a high level appears on connector X91, contact A1, relay K2 will remain in the break position. This means that both blowers are connected to the supply voltage in series and thus only work with reduced ventilating capacity.

If the signal blower ST2 goes low, the blowers are connected to the supply voltage in parallel. They then both work to full capacity.

6. Repair

See circuit diagrams, parts lists and components layouts in the appendix to this repair manual (list on page 0.8).

6.1 Preliminary Remarks

6.1.1 General

The repair of the HF Power Amplifier 1 kW VK 859C1 consists of troubleshooting and fault elimination, of measurements, alignment and functional checks, of replacing components as well as of a final test.

All the information required for repairing the HF Power Amplifier 1 kW VK 859C1 down to component level is given in this chapter 6.

Any fault that occurs should be localized with the aid of the troubleshooting flowcharts given in Figs. 6.2 to 6.11.

6.1.2 Restoring the Nominal Characteristics

Any component that is definitely proved to be defective - through use of the troubleshooting flowchart or by performing the measurements, alignment and functional checks - should only be replaced by a component that meets the specifications given in the parts list in the appendix to this repair manual.

Only in this way can the technical data be guaranteed that are given in chapter 1 of the user manual.

Once components have been replaced, it is absolutely essential that the final test detailed in 6.7 is performed.

6.1.3 Spare Parts

All components and assemblies are subjected to strict quality control.

For components from outside suppliers, e.g. resistors, capacitors, diodes, transistors and integrated through to highly integrated circuits, R&S have set down their own delivery specifications for the purpose of ensuring maximum reliability. For this reason we recommend that only original spare parts be used to replace defective components.

When ordering a spare part, please state the following:

Type, odering code and serial number of equipment, identification number of the parts list and designation plus stock number of the component concerned.

All of these details are to be found in the circuit diagrams, parts lists and components layouts attached to this manual.

6.1.4 Important User Information

Please note the following points, which are important for the avoidance of misunderstandings when using part 6 of the repair manual:

- **The troubleshooting must be carried out in the order given.**
- **All measurements are referred to ground, if not stated otherwise.**
- **The circuit diagrams in which the mentioned components are to be found are stated within the troubleshooting flowcharts.**
- **Perform all measurements and alignment with the power supply / EMC filter connected to the correct operating voltages given in the respective circuit diagram.**
- **The abbreviations given in the text e.g. X1.1 or D40.14 are to be understood as follows:**
  - **Connector / socket / test or soldering point X1, contact 1**
  - **Integrated digital circuit D40, contact 14**
- **Make sure the operating voltage is switched off before carrying out any soldering on any component.**
- **For the replacement of the HF power transistors as well as the output transformer of the push-pull stages special instructions must be complied with acc. to the details given in 6.6.**

CAUTION ESD

Among the components incorporated in the HF Power Amplifier 1 kW VK 859C1 there are electrostatic sensitive devices (ESD), MOS, MOS-FET and CMOS devices. Devices of this kind are extremely sensitive to high extraneous voltages. Static discharge can produce very high voltage spikes, which are capable of destroying these devices.

For this reason, when work is being carried out in the vicinity of these devices, i.e. unless a special CMOS workstation is available, the following minimum requirements should be observed:

- **Conductive bench and floor covering**
- **Chair or stool with conductive covering**
- **Grounded, metallic working top and conductive wrist-straps with a resistance of > 200 kΩ, < 1 MΩ plus an insulated lead and plug**
- **Soldering irons with safety grounding**
- **All conductive surfaces, wrist-straps and working tops must be interconnected by insulated leads.**

6.2 Test Equipment and Special Tools

The test equipment and special tools given in the following list will be required for performing the repairs described in this part of the manual. Equivalent items of test equipment can be used. Special tools are not required.

No.	Test equipment, required data	Test equipment recommended by R&S	Ordering code
1	Power Meter, 1.5 MHz to 30 MHz with measuring head 50 Ω or Power Reflection Meter Power Head, 0.5 to 195 W_{PEP}	NRS or NAP NAP-Z7	100.2433.92 100.2440.50 392.4017.04 350.8214.02
2	2 Power Supply Units, 50 V / 40 A	NGRE 50 / 40	100.8454.19
3	2 Signal Generators	XPC or SMX	337.8014.52 826.4517.52
4	Spectrum Analyzer, 0.1 to 100 MHz, sensitivity > 80 dBm, level range 80 dB or Spectrum Analyzer	Model 632C-1 or FSA	 804.8010.52
5	Power Splitter / Combiner, 50 Ω / 1.5 MHz to 30 MHz or Power Splitter / Combiner	DVU 3 or DVS	100.5203.50 342.1014.50
6	2 Digital Voltmeters, RF proof or RMS Voltmeter	URE or URE 2	342.1214.02 350.5315.02
7	Attenuator, 50 Ω / 100 W, 30 dB	RBU	100.8654.37
8	Triple Power Supply, 5.3 V / 0.1 A; + 16 V / 0.1 A; -16 V / 0.1 A	NGT 20	117.7133.02

No.	Test equipment, required data	Test equipment recommended by R&S	Ordering code
9	Amperemeter, 40 A, moving iron or Digital Multimeter Clamp-on Current Probe, 150 A	(Philips) or UDL 45 UDL 4-Z3	 1037.1507.02 346.8113.02
10	Oscilloscope	Conventional workshop model	
11	Generator, 0 to 100 Hz, 5.3 V	AFG	377.2100.02
12	Test adapter for VK 859C1 (from Service Kit)		
13	Attenuator, 1000 W, 40 dB	RBS	207.4010.55
14	Power Supply, 28 V / 10 A	NGRE 30 / 15	100.8260.19
15	Directional Coupler, 1.5 MHz to 150 MHz, a_R = 20 dB	Anzac CD-920-4	
16	RF Millivoltmeter or RF Millivoltmeter	URV 4 or URV 3	292.5012.02 302.9014.02
17	Terminator, 50 Ω / 1 W, N-type connectors	RNB	272.4910.50
18	Network Analyzer with integrated signal generator or Vector Analyzer Tuner	(HP 3577A) or ZPV ZPV-E2	 291.4012.93 292.0010.02
19	Process Controller Standard Keyboard or Process Controller	PUC PUC-Z1 or PCA 15	344.8900.10 345.2011.04 376.1100.02

6.3 Troubleshooting

6.3.1 General

Troubleshooting is based on the following assumptions:

- The HF Power Amplifier 1 kW VK 859C1 has been clearly identified as defective.
- The correct operating voltages are connected.

To make the general troubleshooting flowchart clearer and more understandable, cross-references to other measurements and repair work are given where necessary.

To enable troubleshooting and repair work to be carried out as rationally and speedily as possible, the order of the checks should be followed as presented here.

6.3.2 Visual Inspection

If there is any disturbance in the equipment, first perform a visual inspection.

1. Check the connectors for bent, corroded or broken contacts. Replace the defective connectors acc. to 6.6.

   CAUTION

   If a contact is discoloured, the connector and the mating connector will both be damaged and must be replaced.

2. Check the printed circuit board for discolouration. Replace the respective circuit board if there is any discolouration.
3. Replace burnt or burst components acc. to 6.6.

Following the general troubleshooting flowchart there are the more detailed flowcharts for the amplifier control, the preamplifier, the 500-W output stages, the harmonic filter, the Tx / Rx relay, the PIN diode switch and the blower control unit. Here, too, the order of the checks should be followed.

No troubleshooting is necessary for the combiner. If the functional test according to 6.4.5 does not prove satisfactory, the combiner must be replaced.

In troubleshooting it is assumed that the HF Power Amplifier 1 kW VK 859C1 is powered and driven with the aid of a test adapter. The inscription of the test adapter in the text corresponds to the inscriptions on the test adapter.

6.3.3 Troubleshooting Flowcharts

Any fault that occurs should be localized with the aid of the troubleshooting flowcharts given in Figs. 6.2 to 6.11.

The following troubleshooting flowcharts Figs. 6.2 to 6.11 comprise troubleshooting as well as the elimination of faults in the HF Power Amplifier 1 kW VK 859C1.

If the setting of the data bus D0 to D7 is not expressly mentioned, settings should be made as follows:

- Bands of harmonic filter: according to transmit frequency
- Power level: 1000 W
- Class of emission: FSK, CW

1. Setting of Bands of the Harmonic filter

Frequency Range	D2	D1	D0
1.5 to 2.199 MHz	0	0	0
2.2 to 3.199 MHz	0	0	1
3.2 to 4.599 MHz	0	1	0
4.6 to 6.699 MHz	0	1	1
6.7 to 9.699 MHz	1	0	0
9.7 to 14.199 MHz	1	0	1
14.2 to 20.599 MHz	1	1	0
20.6 to 30 MHz	1	1	1

2. Setting of Power Level

Condition	D5	D4	D3
100 W	0	0	0
250 W	0	0	1
1 kW	0	1	0
500-W output stage A30 on and A40 off (Pout = 100 W)	1	0	0
500-W output stage A40 on and A30 off (Pout = 100 W)	1	1	1
100 W in battery operation	1	0	1

3. Setting of Class of Emission

Class of Emission	D7	D6
FSK, CW	1	0
USB, LSB, AME	1	1
LINE (not in AME, USB, LSB)	0	1
ISB	0	0

Fig. 6.1 Setting of Switches D0 to D7 on Adapter for Data Bus Setting

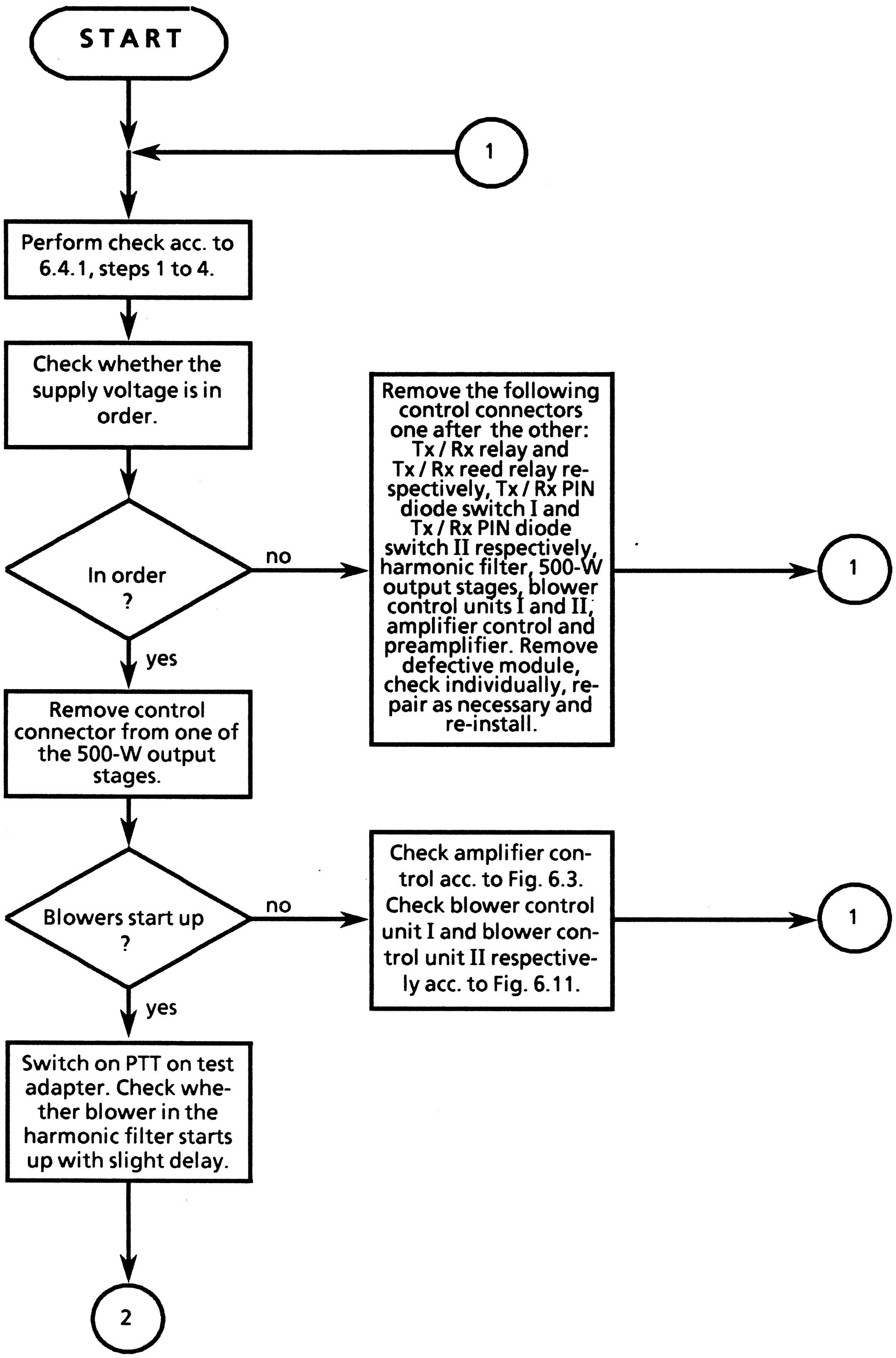


Fig. 6.2 Troubleshooting Flowchart, HF Power Amplifier 1 kW (page 1 of 2)

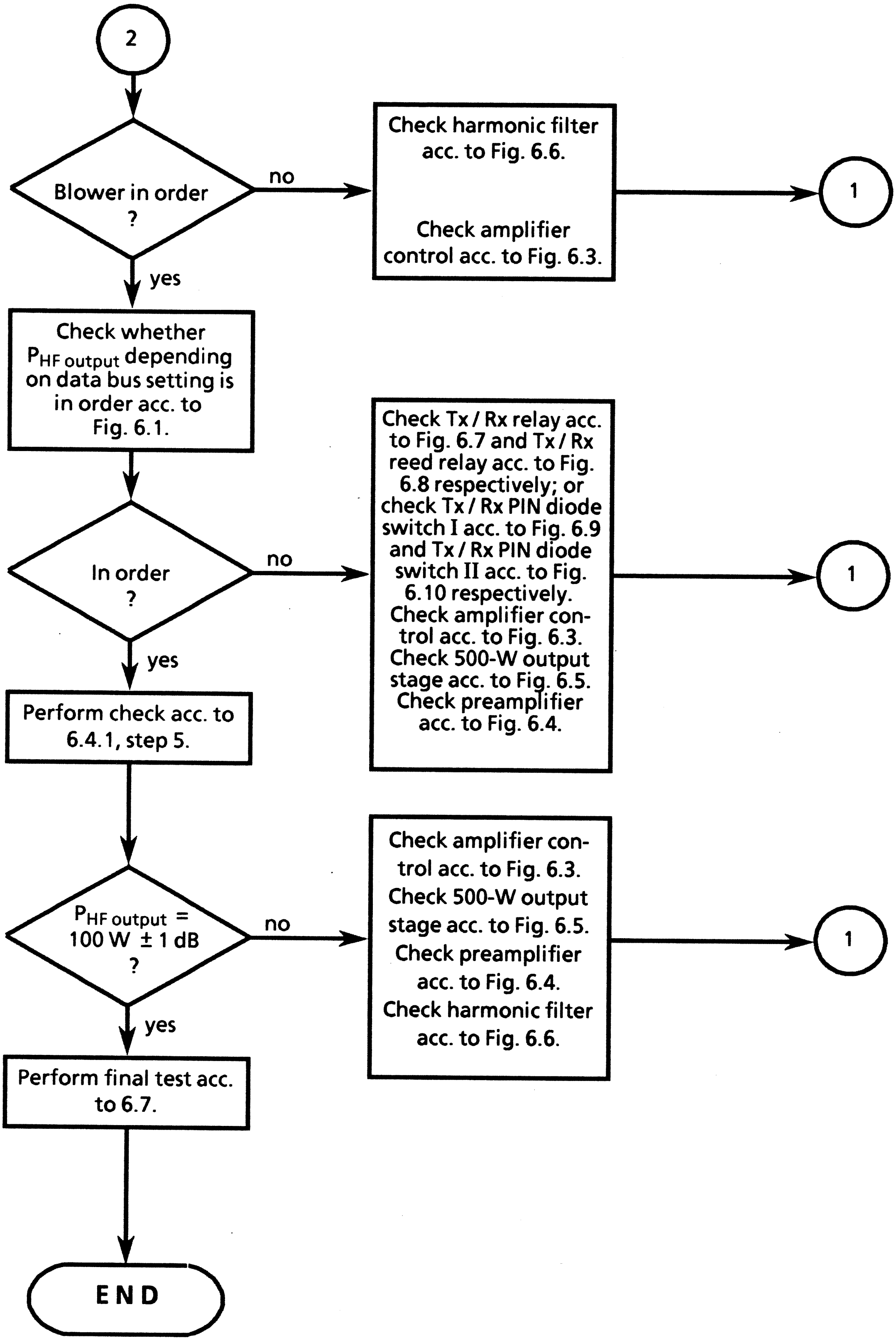


Fig. 6.2 Troubleshooting Flowchart, HF Power Amplifier 1 kW (page 2 of 2)

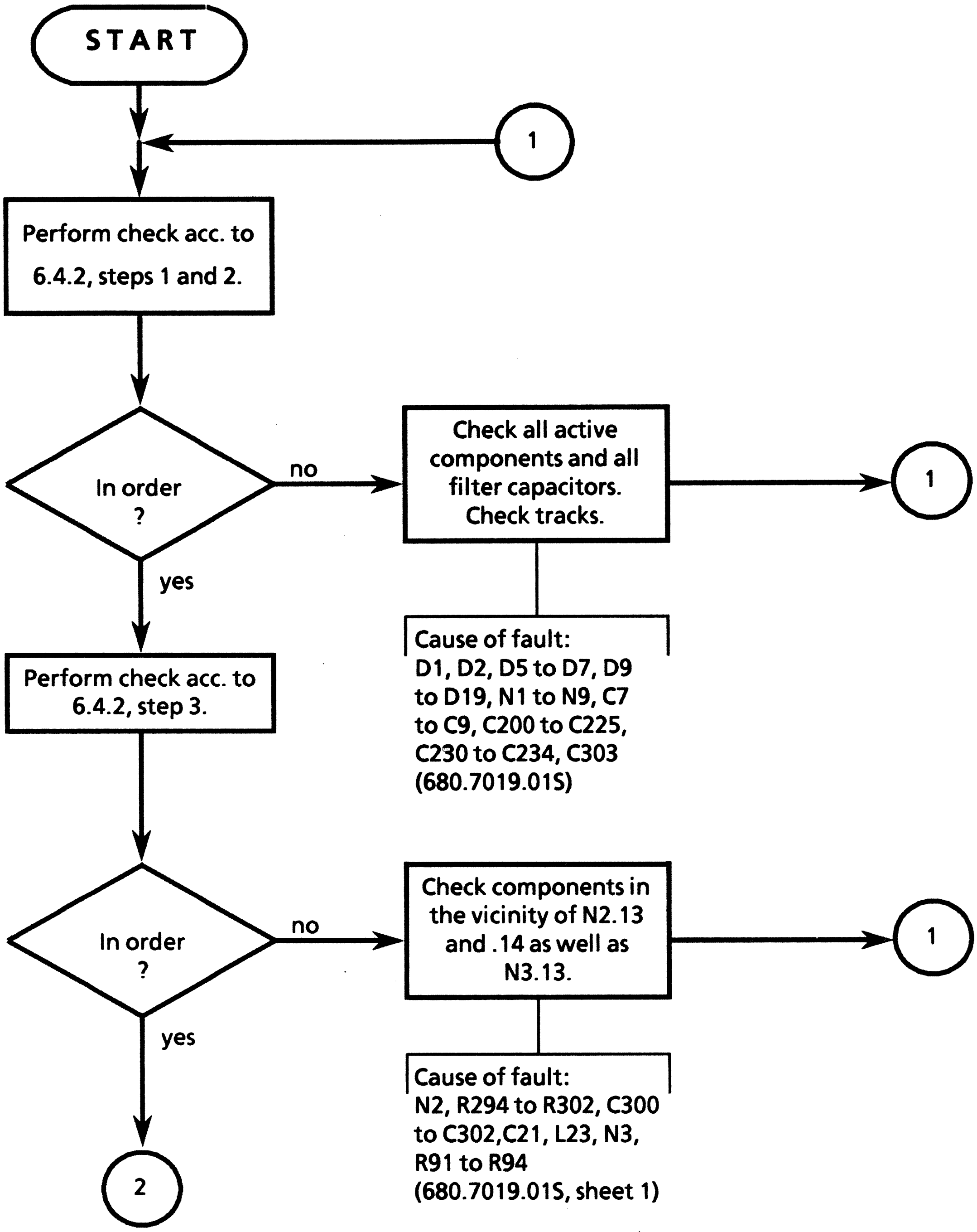


Fig. 6.3 Troubleshooting Flowchart, Amplifier Control (page 1 of 12)

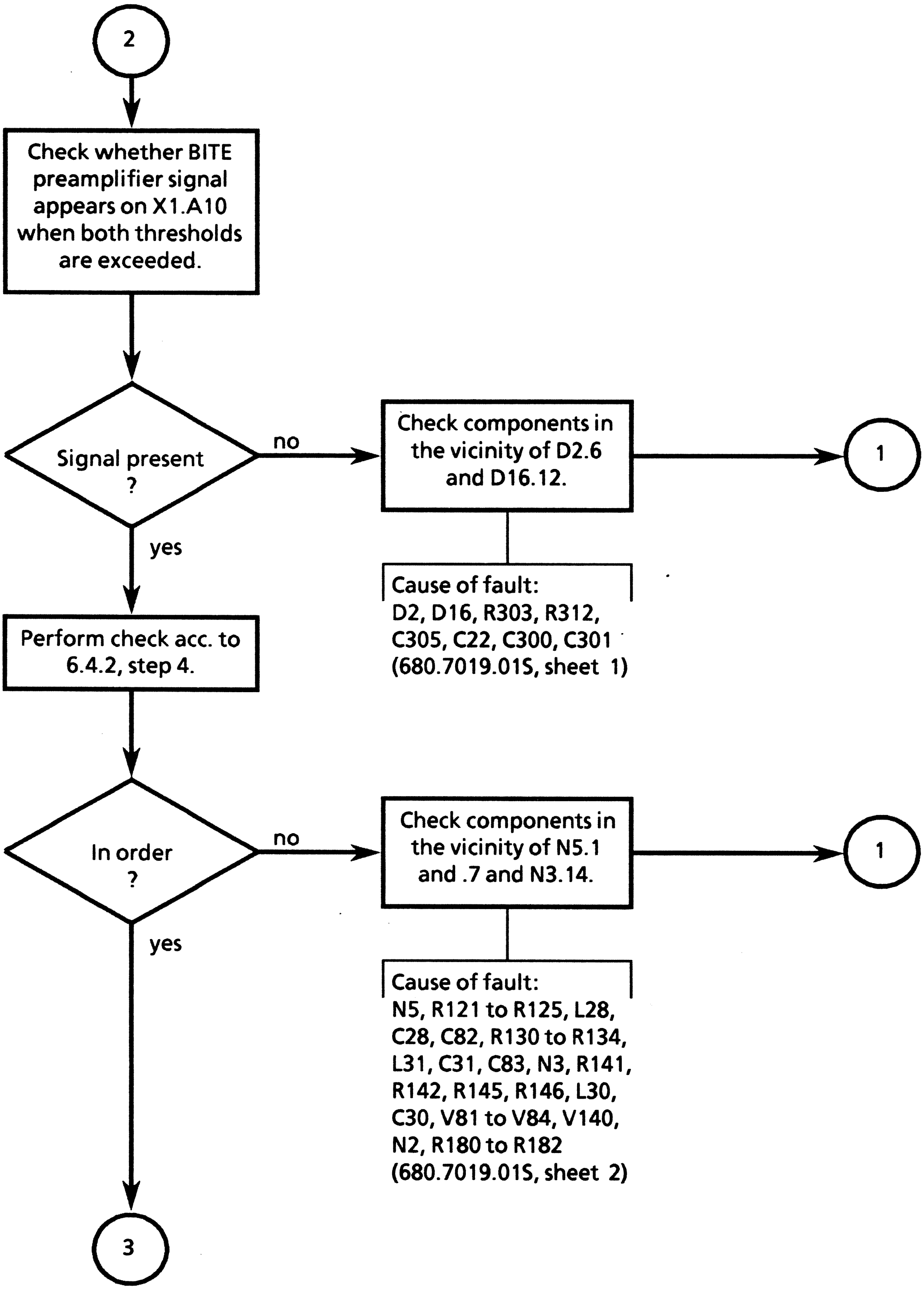


Fig. 6.3 Troubleshooting Flowchart, Amplifier Control (page 2 of 12)

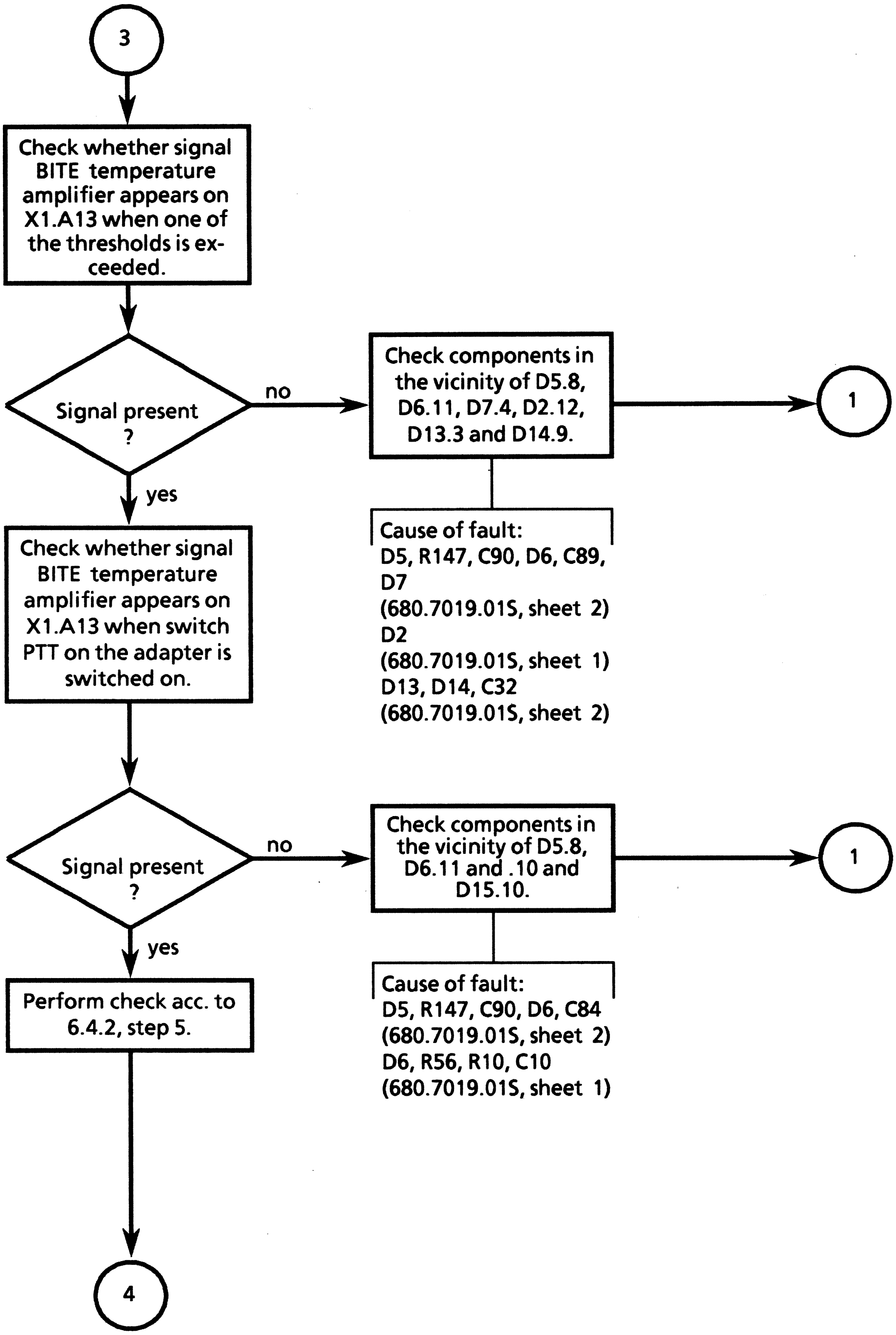


Fig. 6.3 Troubleshooting Flowchart, Amplifier Control (page 3 of 12)

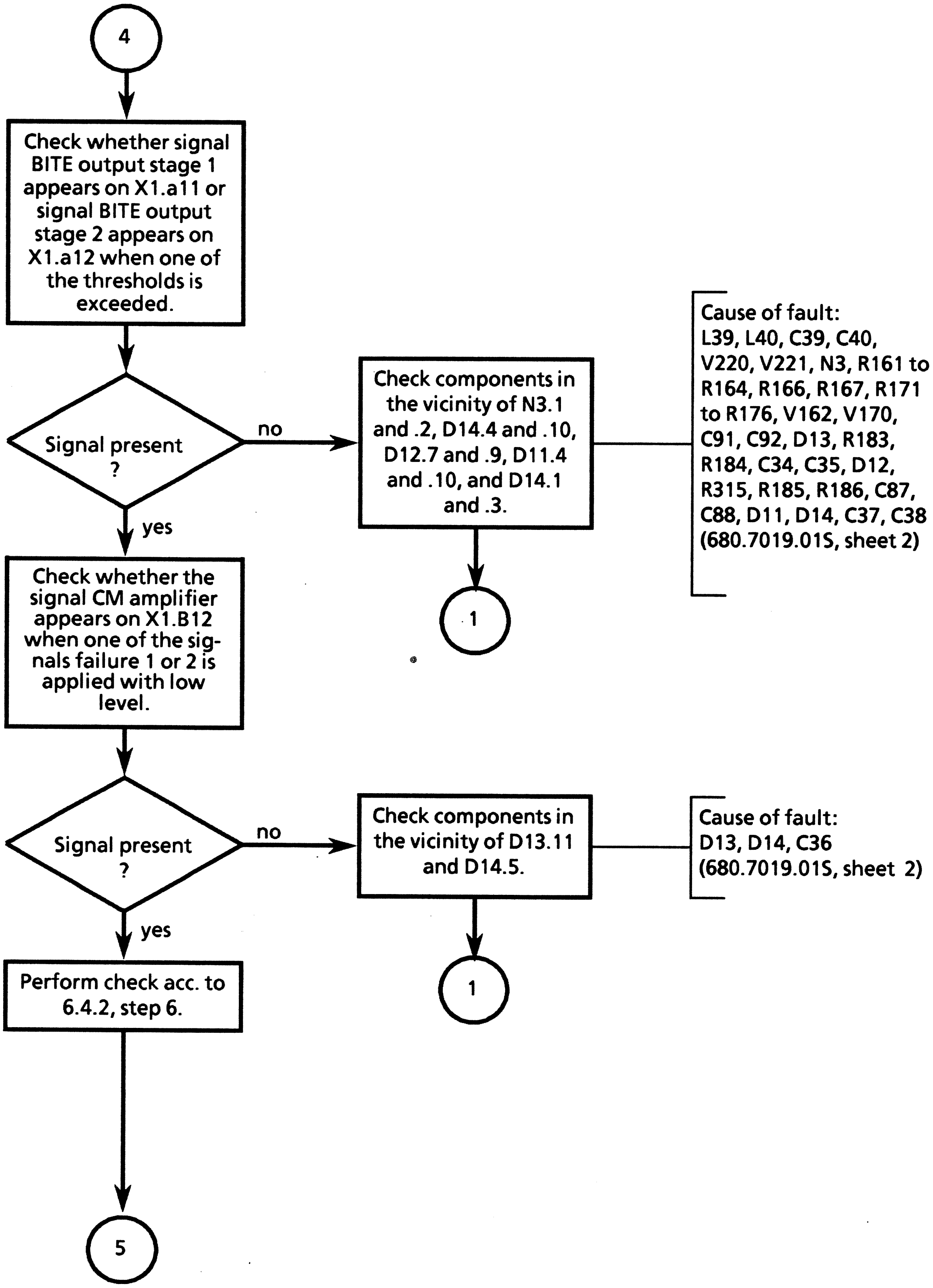


Fig. 6.3 Troubleshooting Flowchart, Amplifier Control (page 4 of 12)

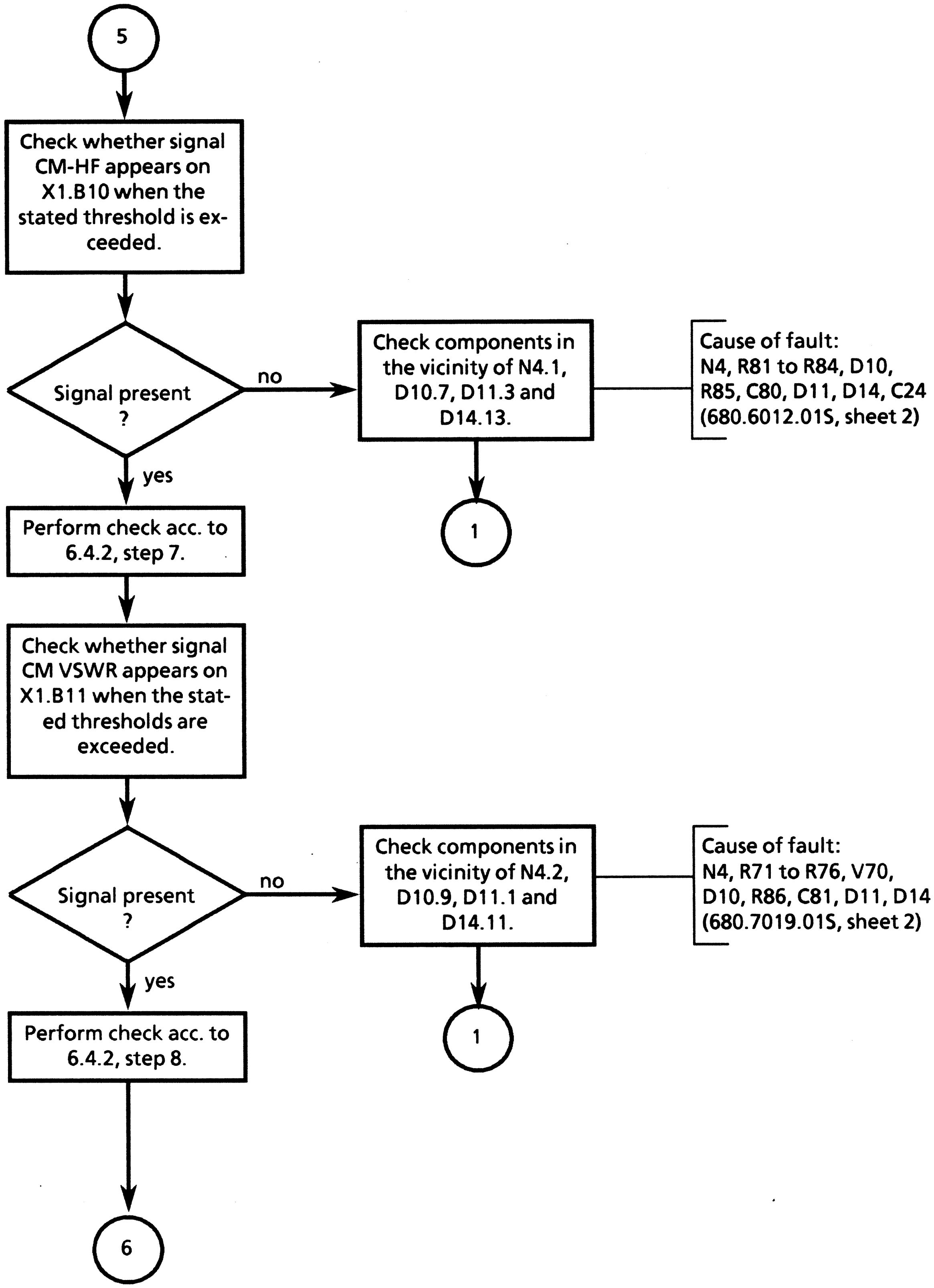


Fig. 6.3 Troubleshooting Flowchart, Amplifier Control (page 5 of 12)

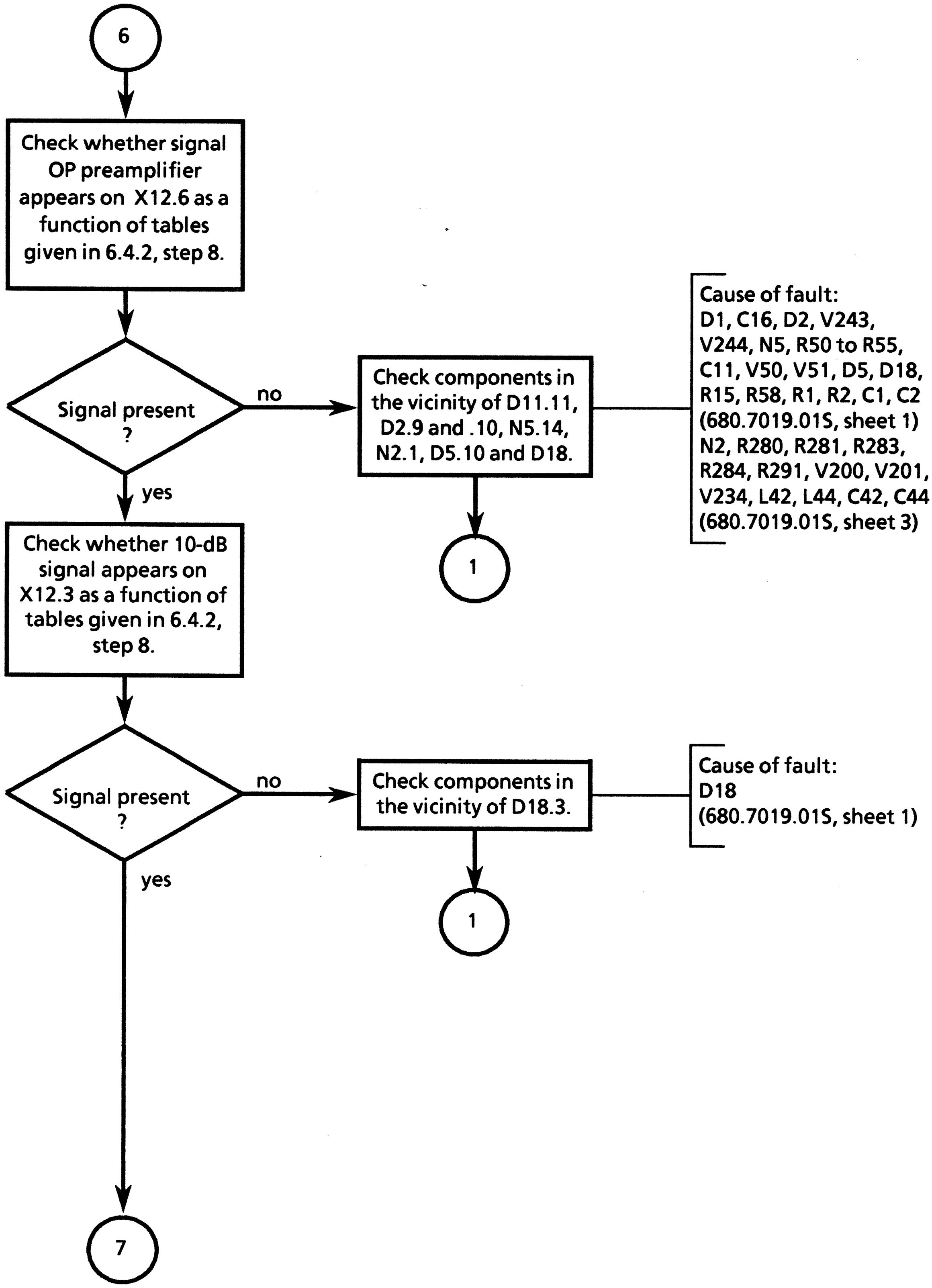


Fig. 6.3 Troubleshooting Flowchart, Amplifier Control (page 6 of 12)

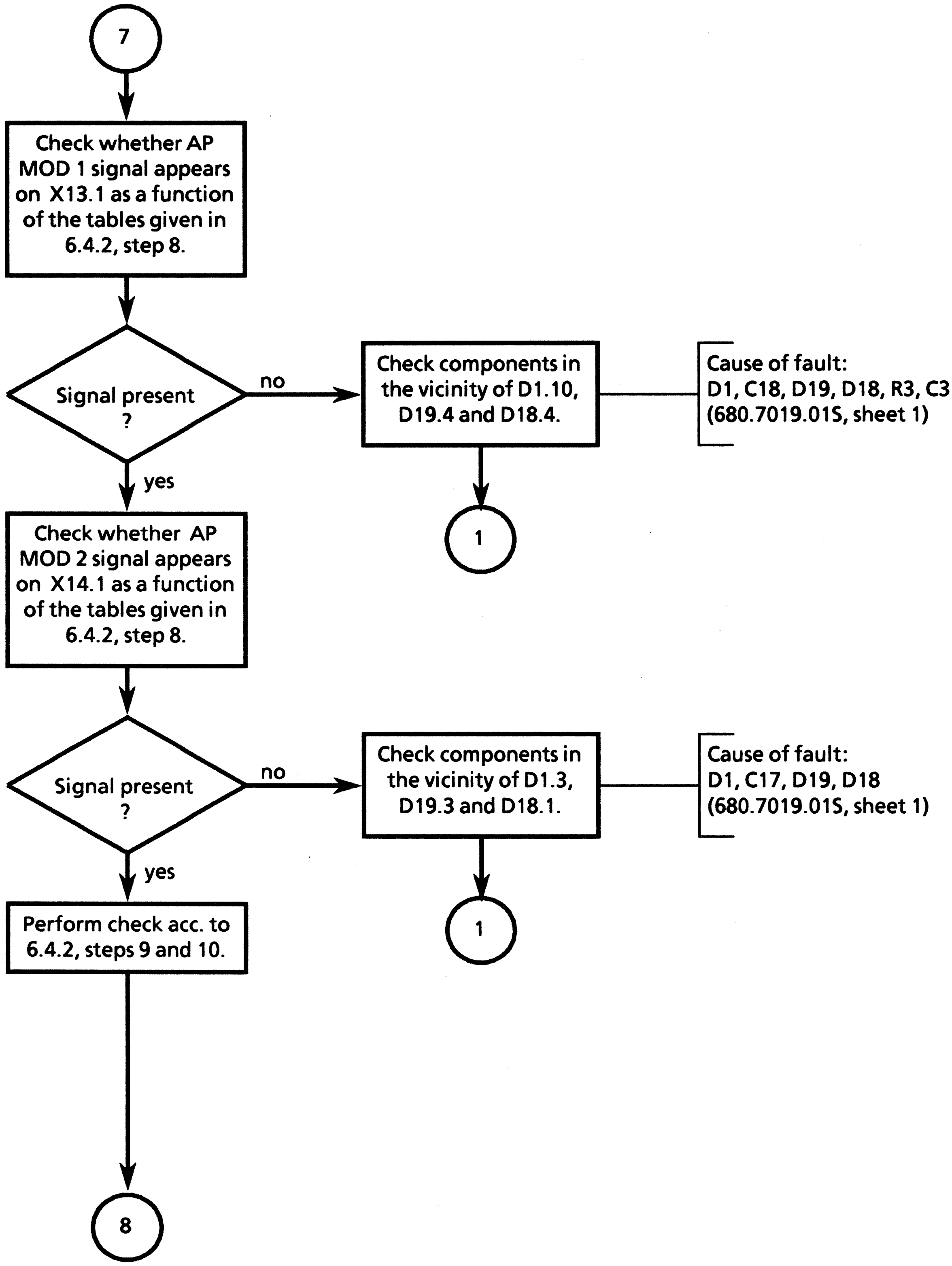


Fig. 6.3 Troubleshooting Flowchart, Amplifier Control (page 7 of 12)

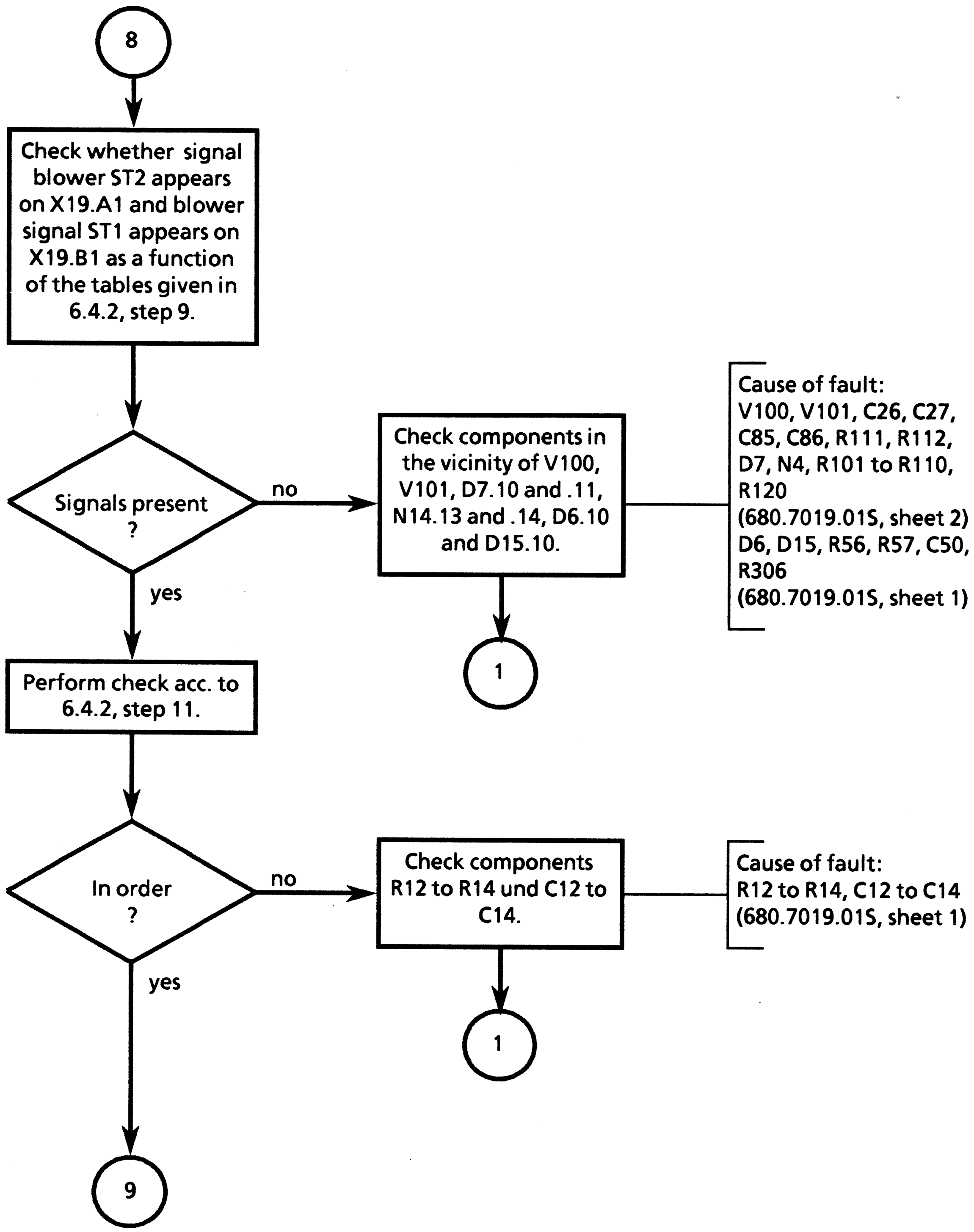


Fig. 6.3 Troubleshooting Flowchart, Amplifier Control (page 8 of 12)

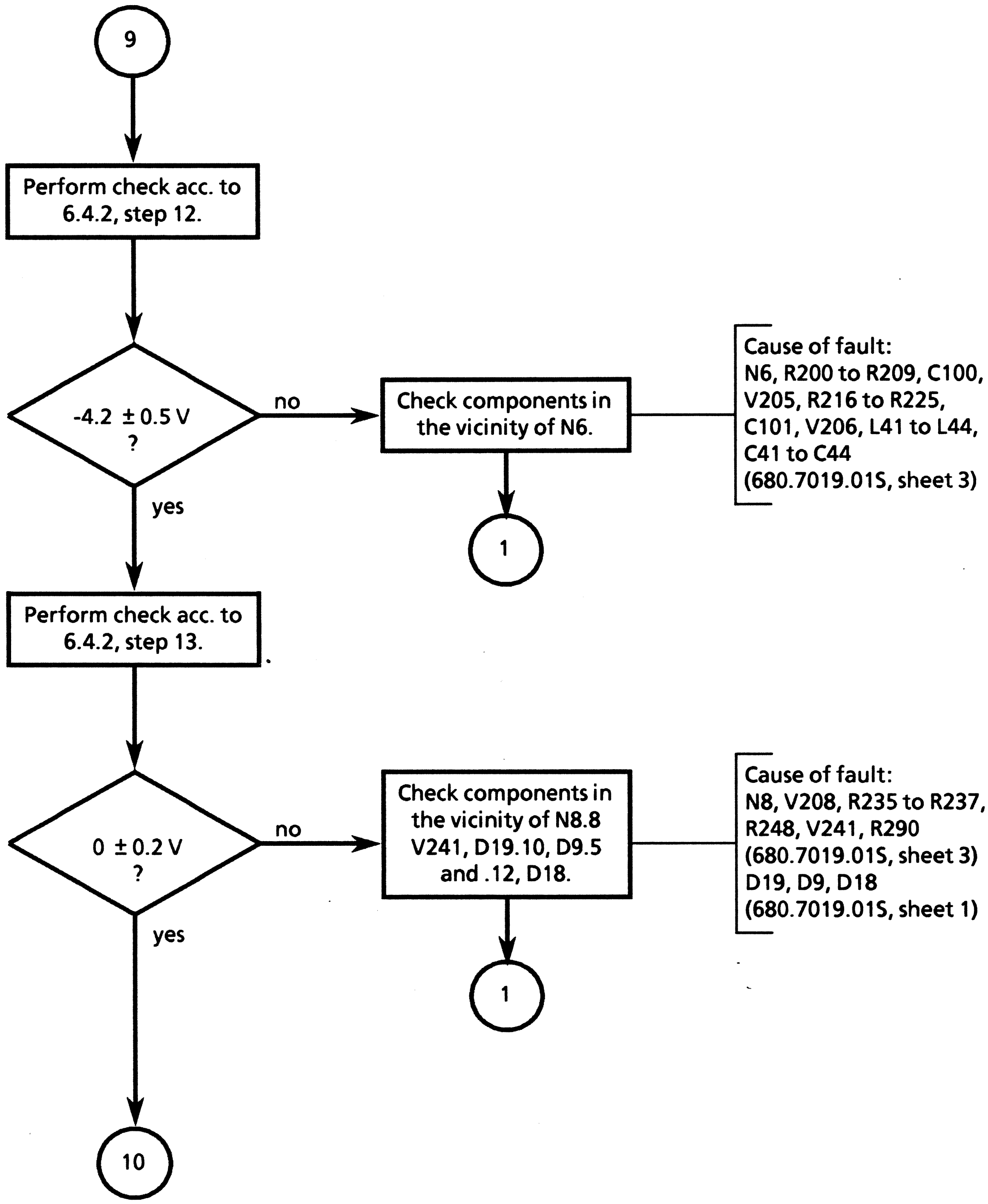


Fig. 6.3 Troubleshooting Flowchart, Amplifier Control (page 9 of 12)

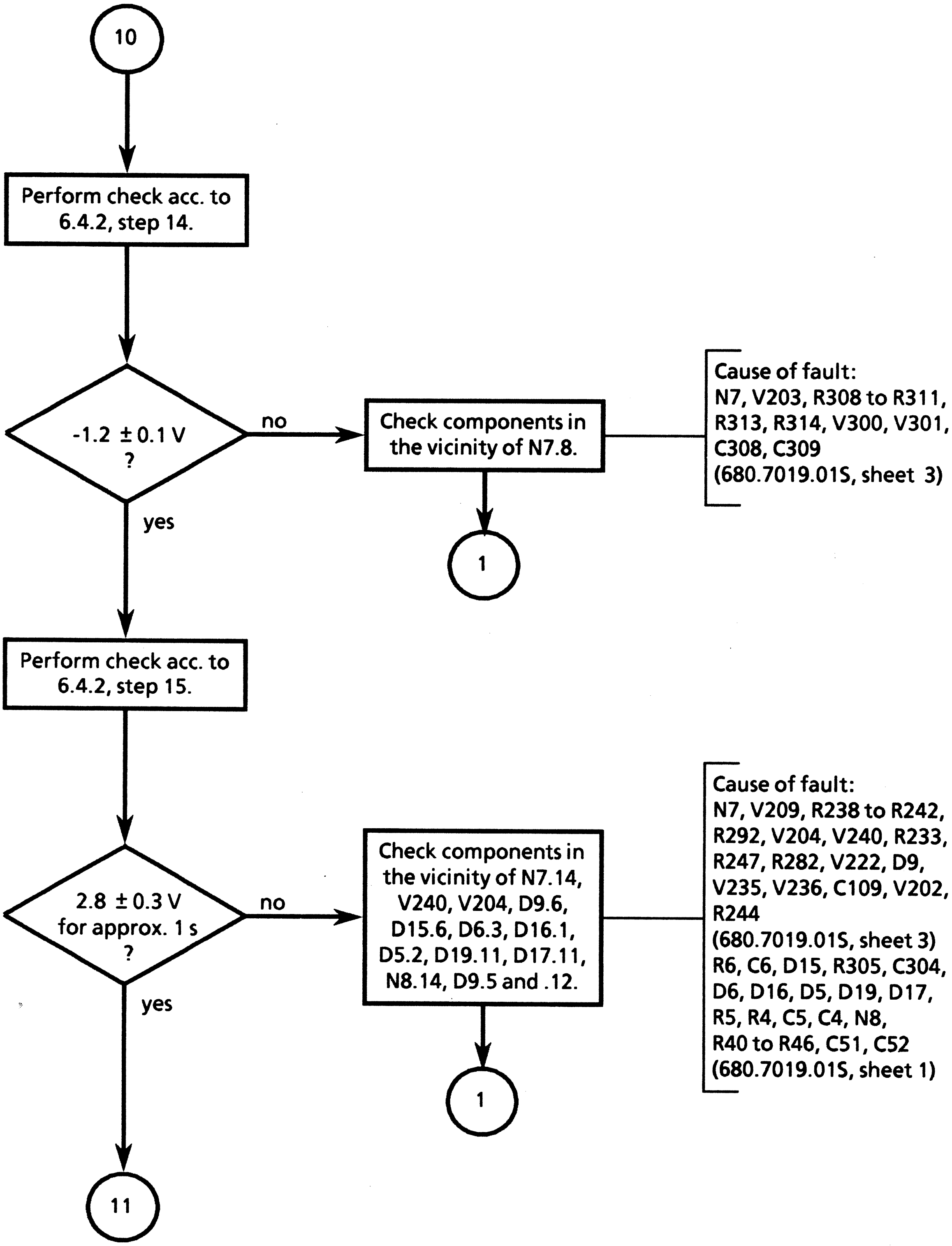


Fig. 6.3 Troubleshooting Flowchart, Amplifier Control (page 10 of 12)

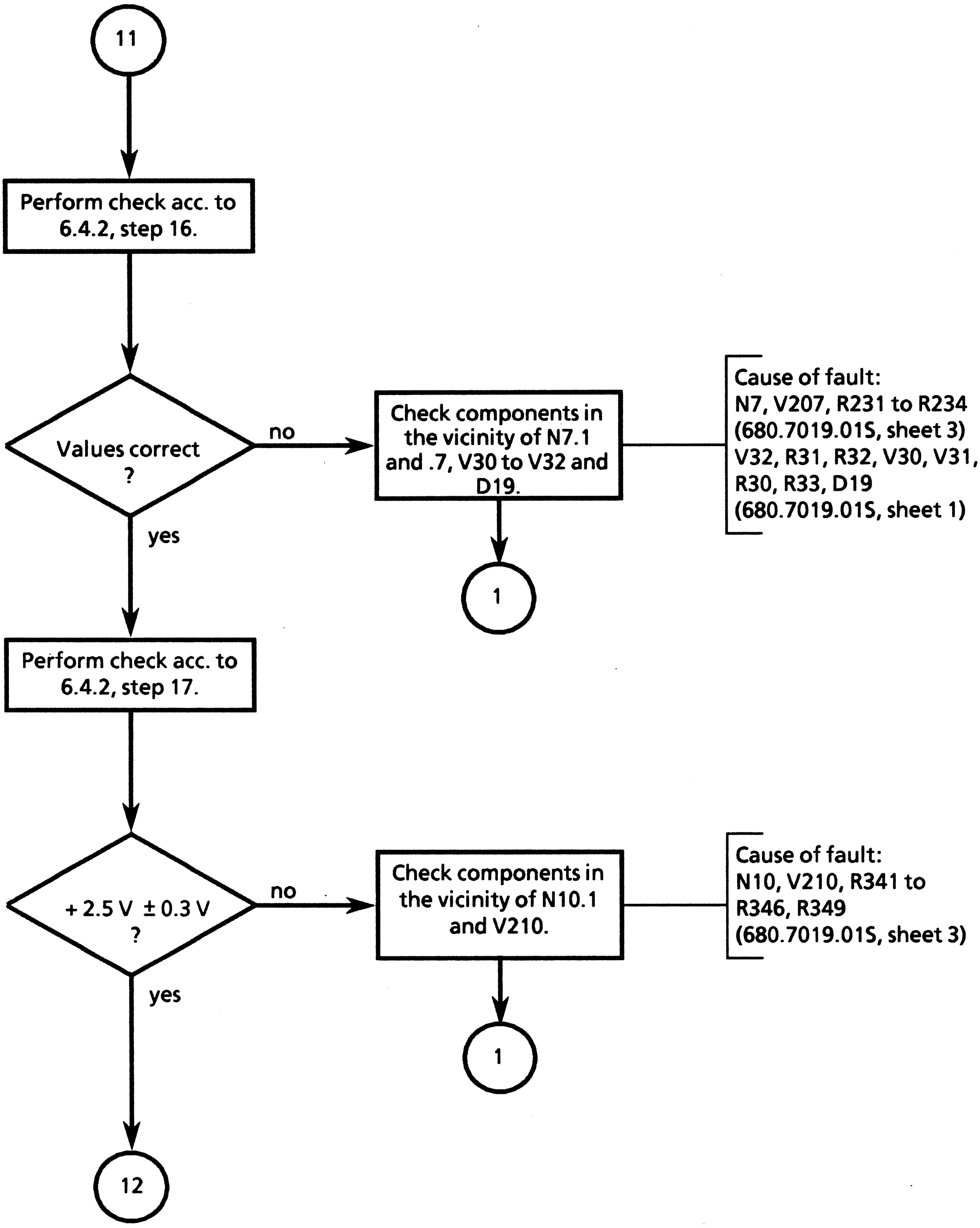


Fig. 6.3 Troubleshooting Flowchart, Amplifier Control (page 11 of 12)

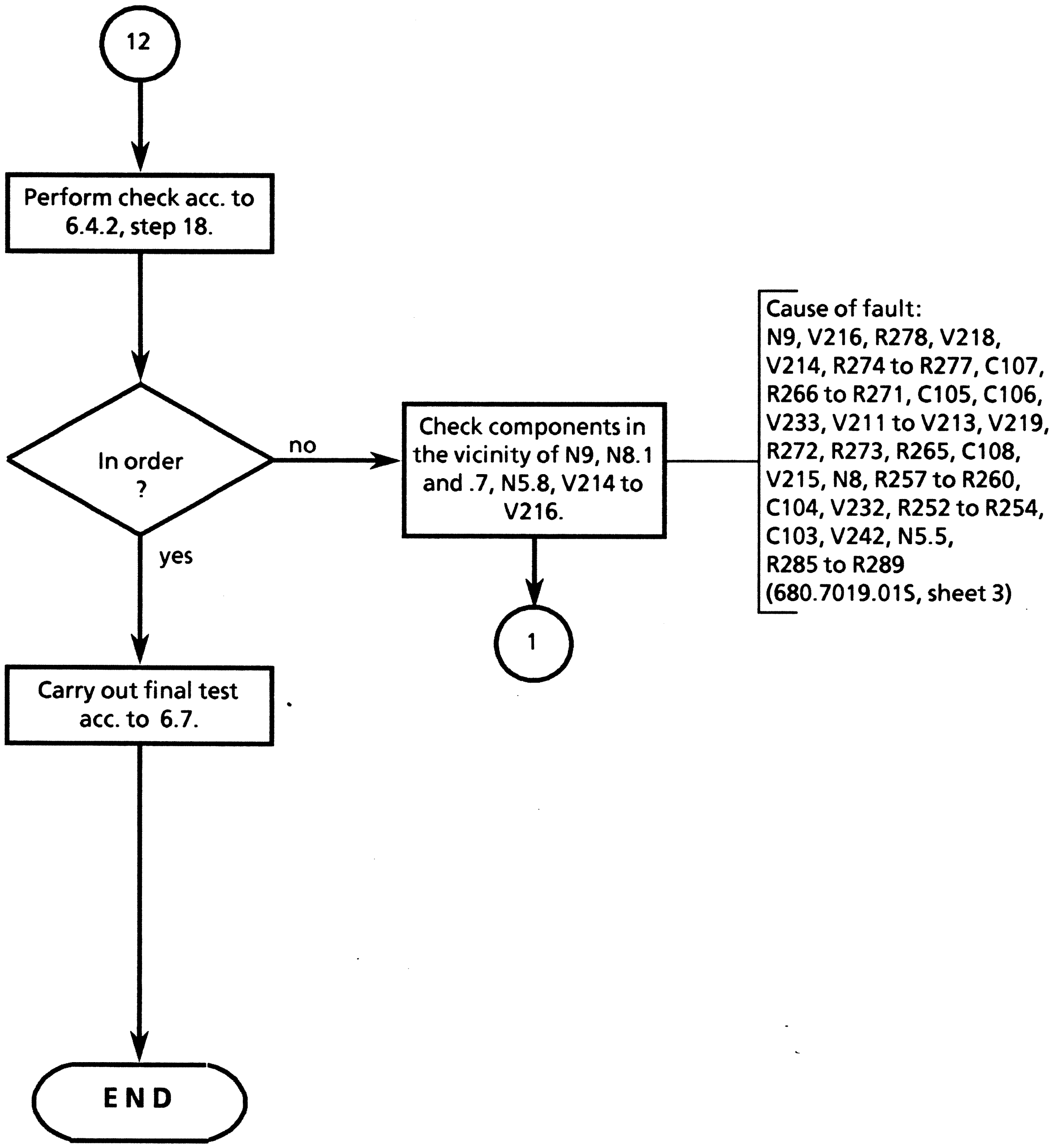


Fig. 6.3 Troubleshooting Flowchart, Amplifier Control (page 12 of 12)

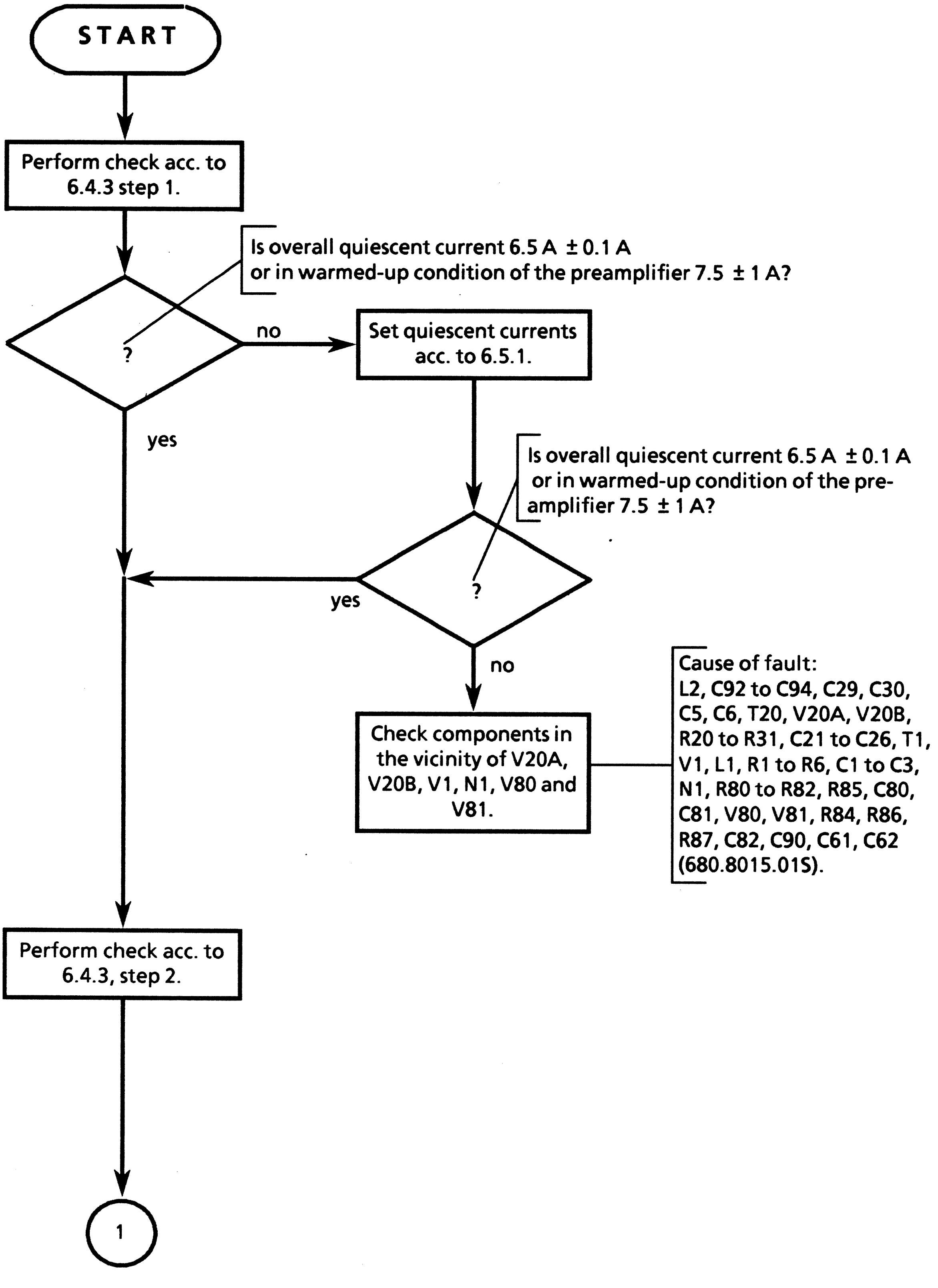


Fig. 6.4 Troubleshooting Flowchart, Preamplifier (page 1 of 4)

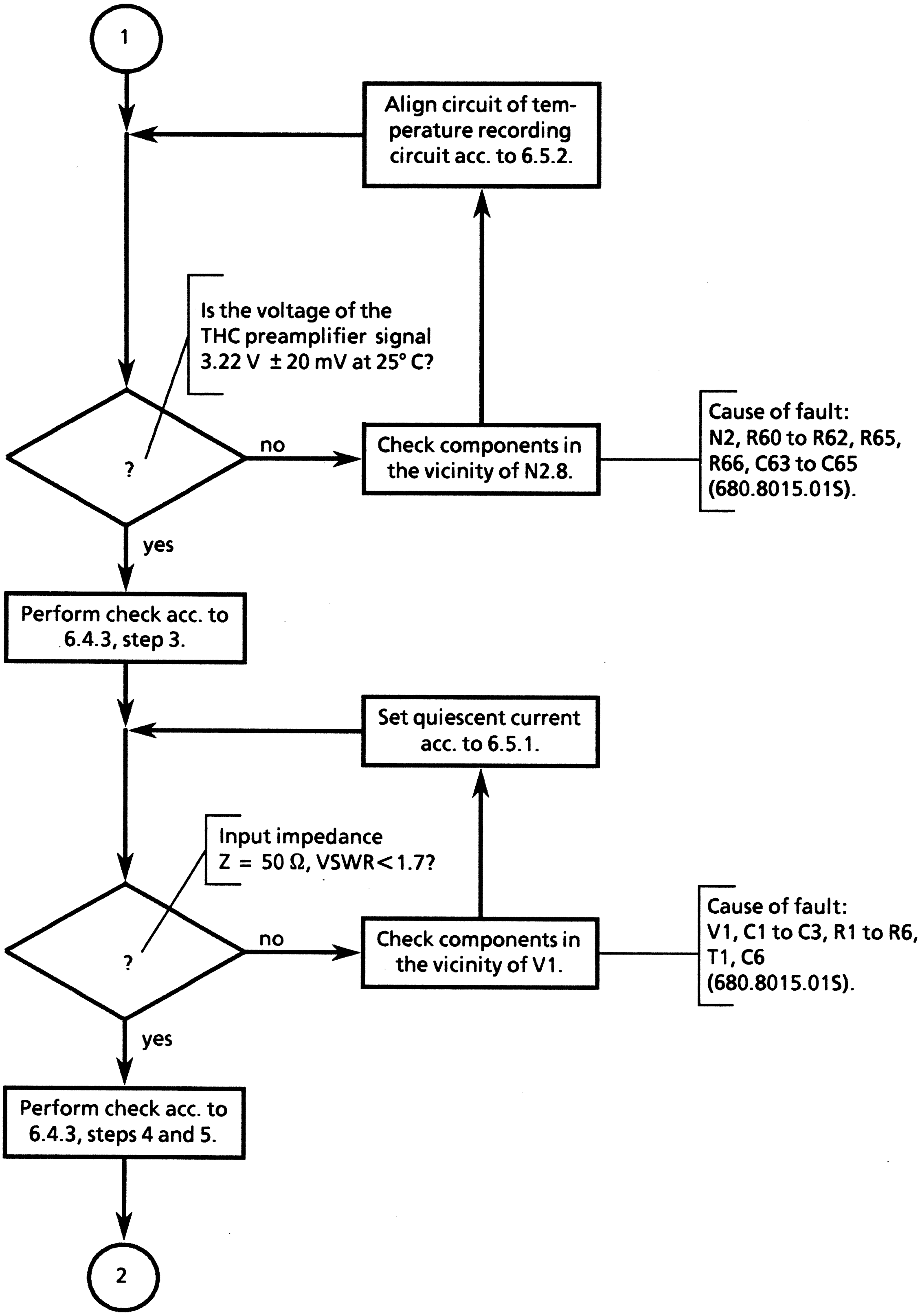


Fig. 6.4 Troubleshooting Flowchart, Preamplifier (page 2 of 4)

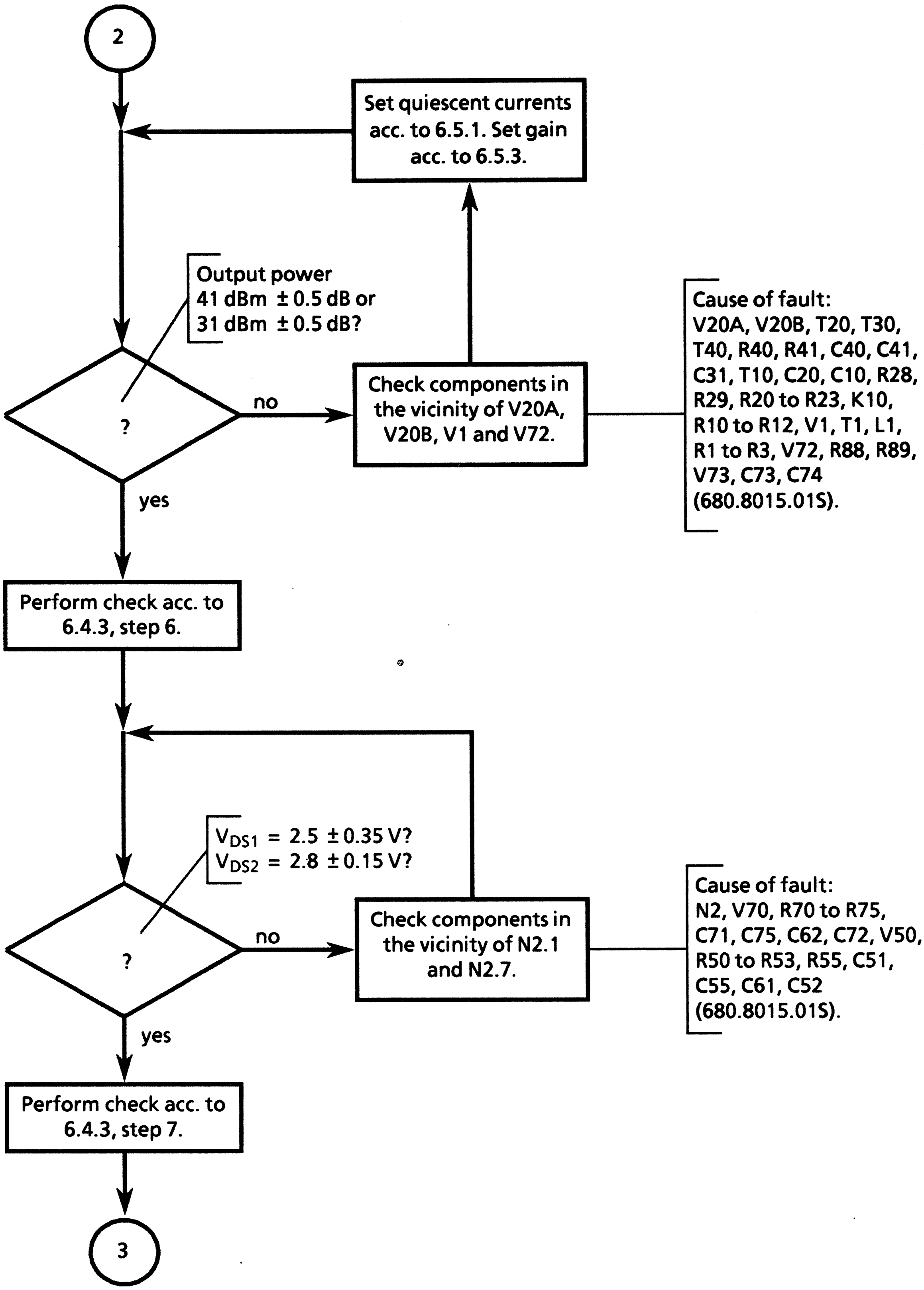


Fig. 6.4 Troubleshooting Flowchart, Preamplifier (page 3 of 4)

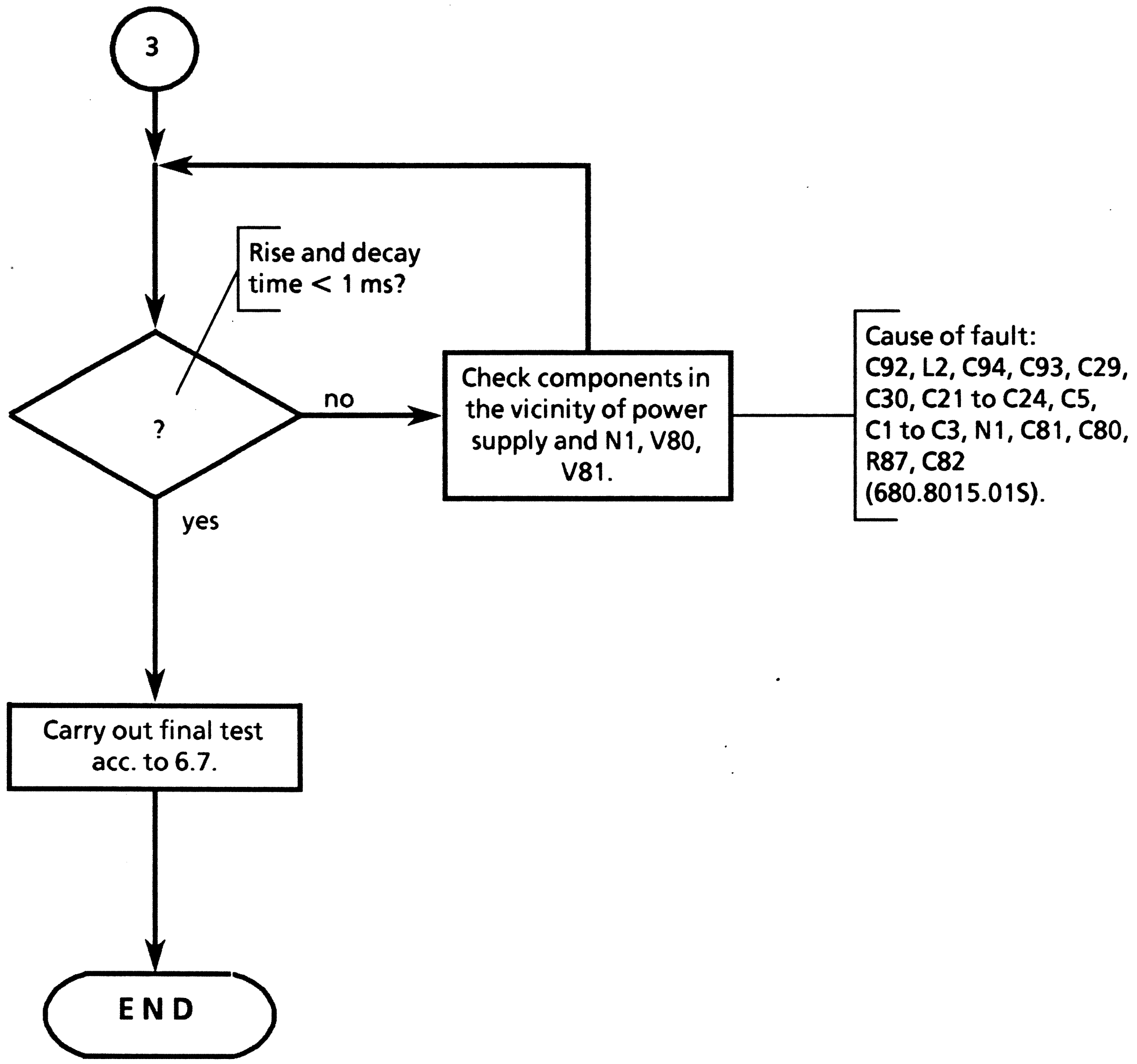


Fig. 6.4 Troubleshooting Flowchart, Preamplifier (page 4 of 4)

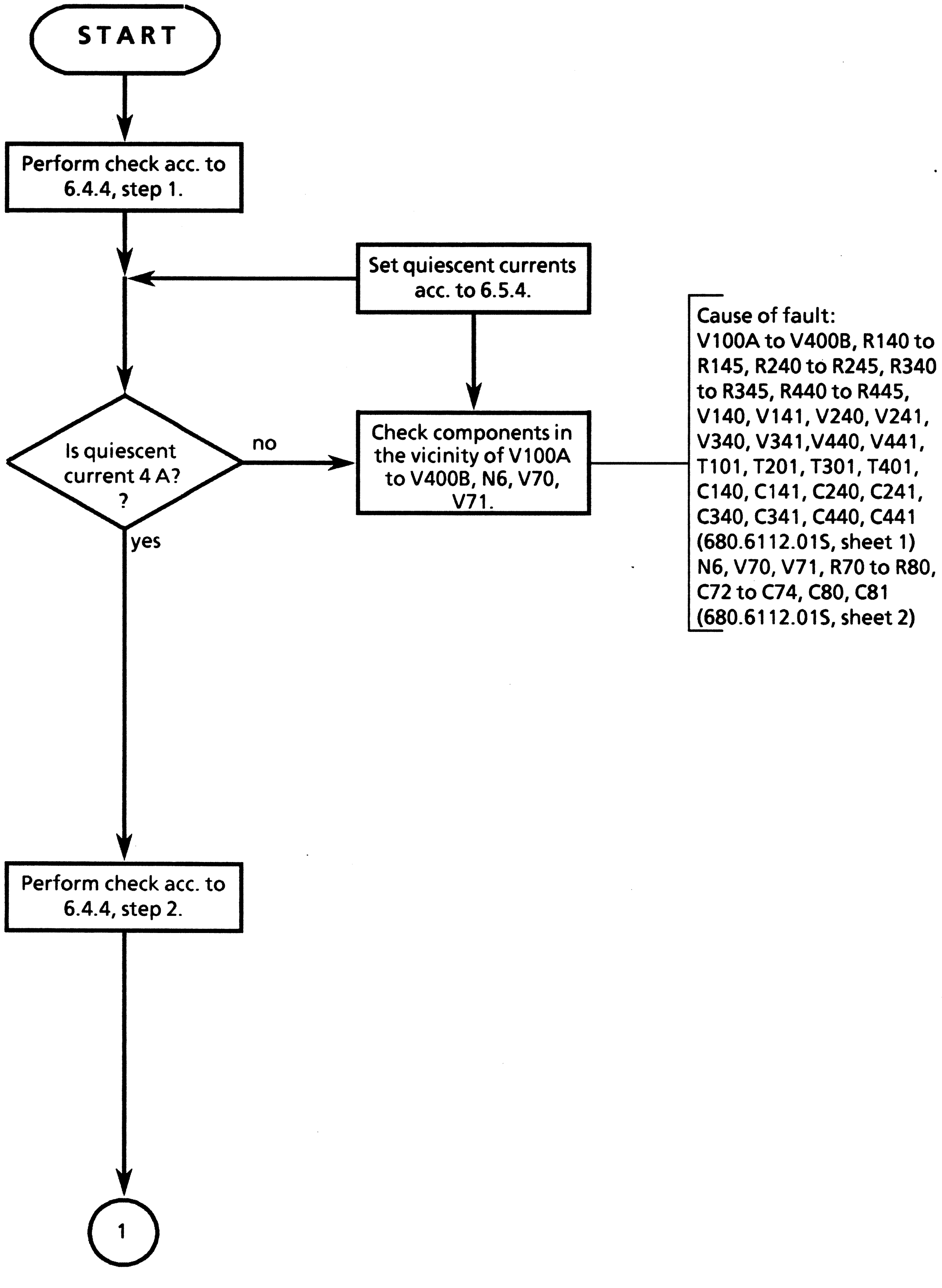


Fig 6.5 Troubleshooting Flowchart, 500-W Output Stage (page 1 of 4)

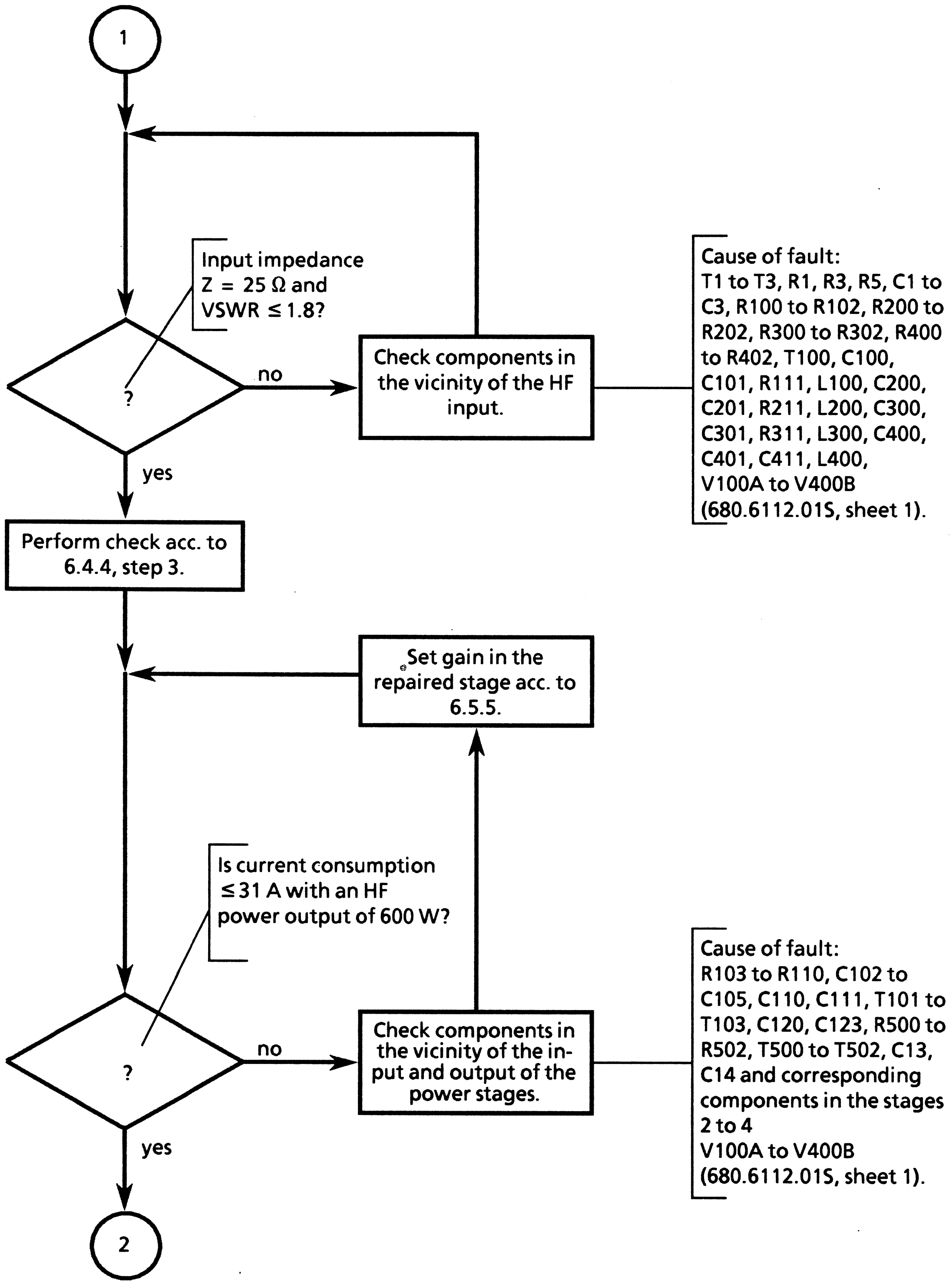


Fig 6.5 Troubleshooting Flowchart, 500-W Output Stage (page 2 of 4)

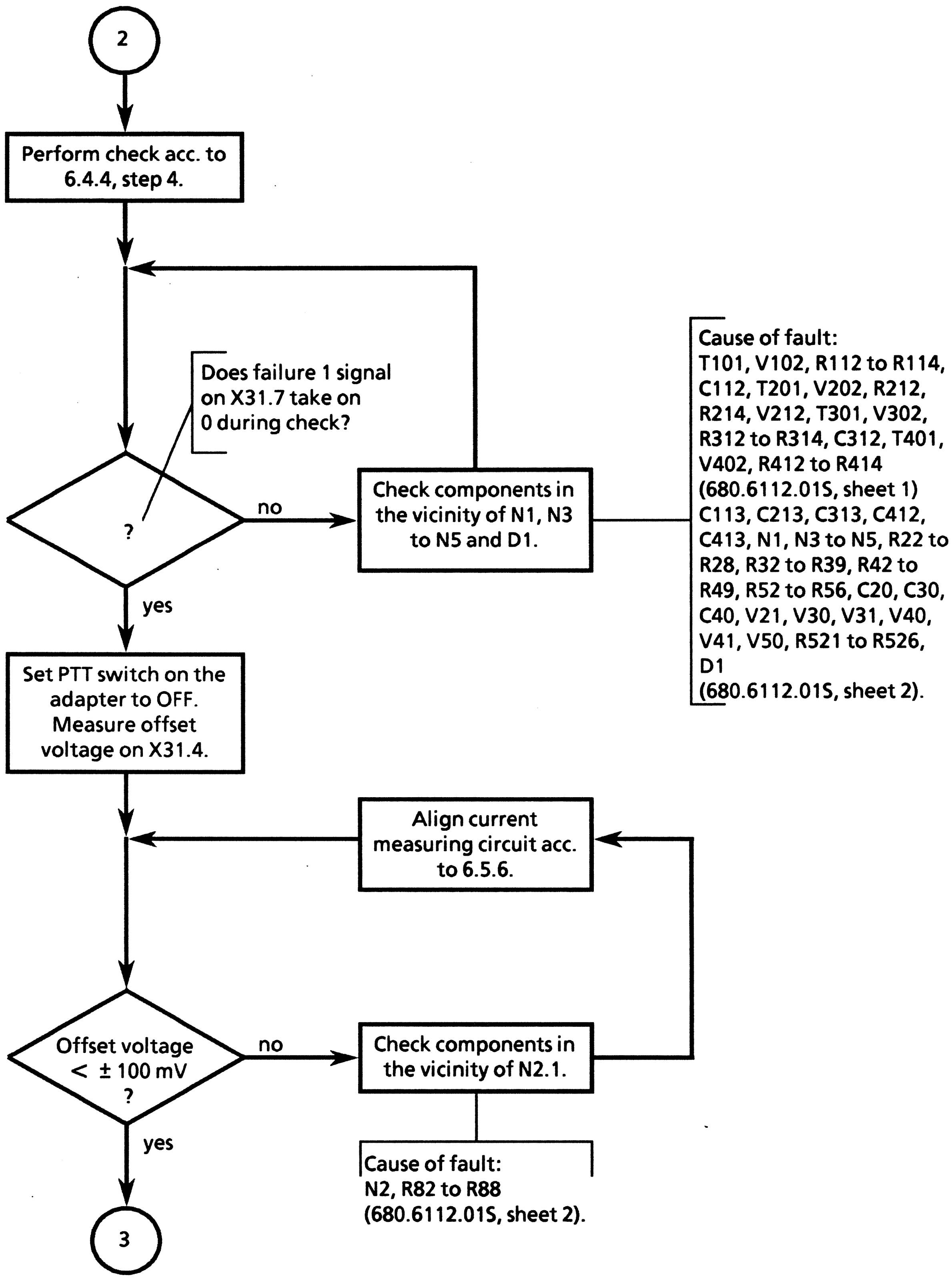


Fig 6.5 Troubleshooting Flowchart, 500-W Output Stage (page 3 of 4)

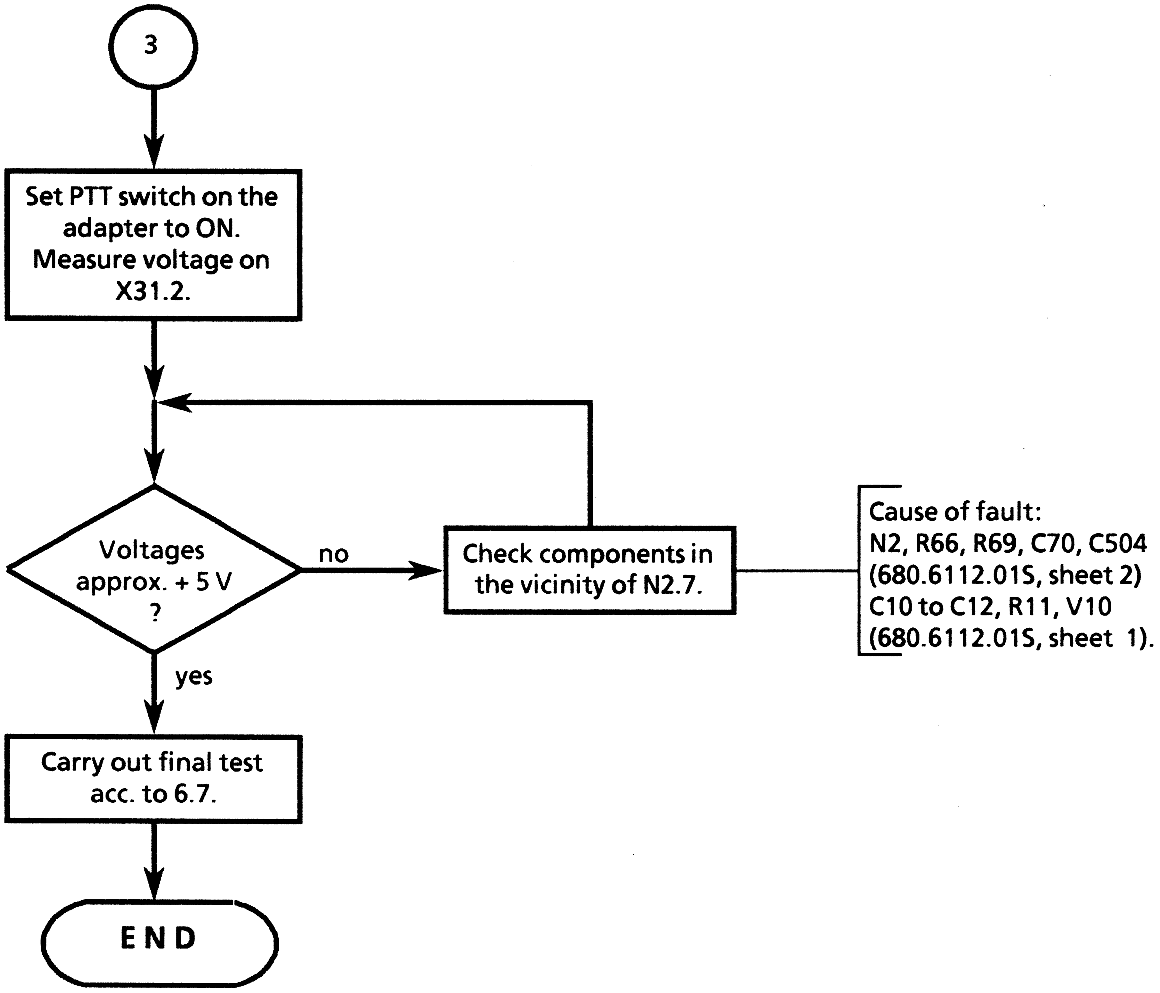


Fig 6.5 Troubleshooting Flowchart, 500-W Output Stage (page 4 of 4)

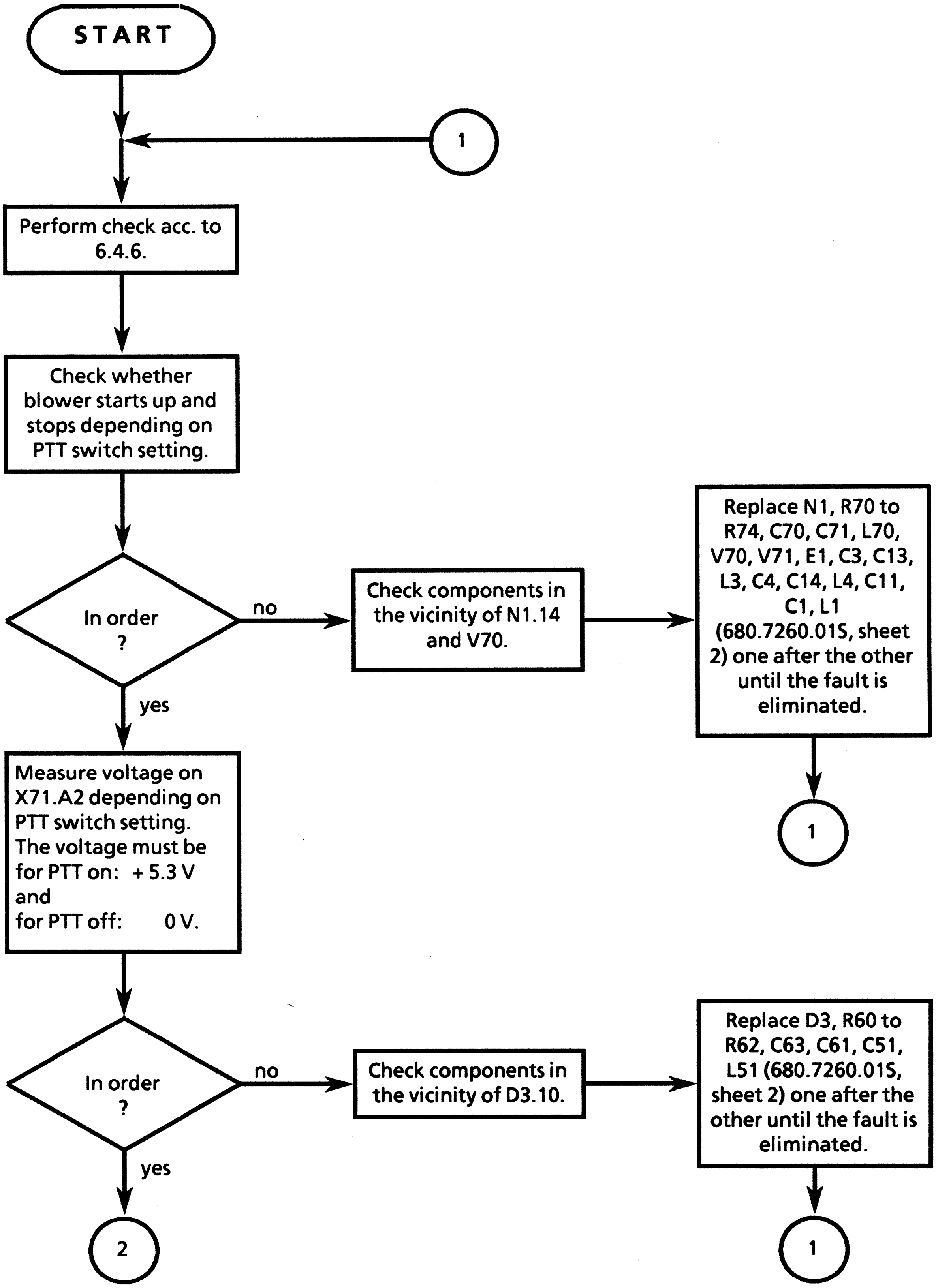


Fig. 6.6 Troubleshooting Flowchart, Harmonic Filter (page 1 of 2)

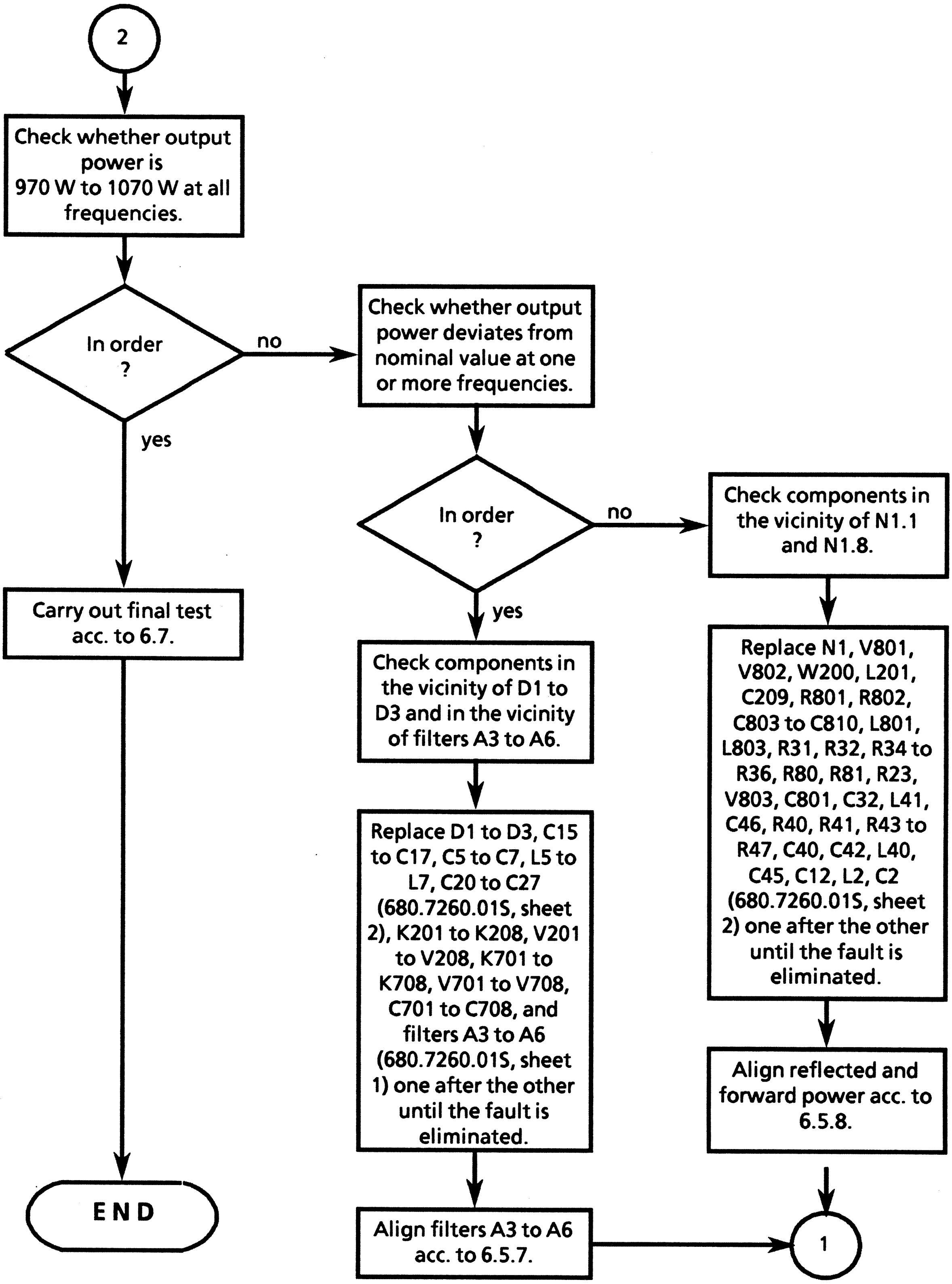


Fig. 6.6 Troubleshooting Flowchart, Harmonic Filter (page 2 of 2)

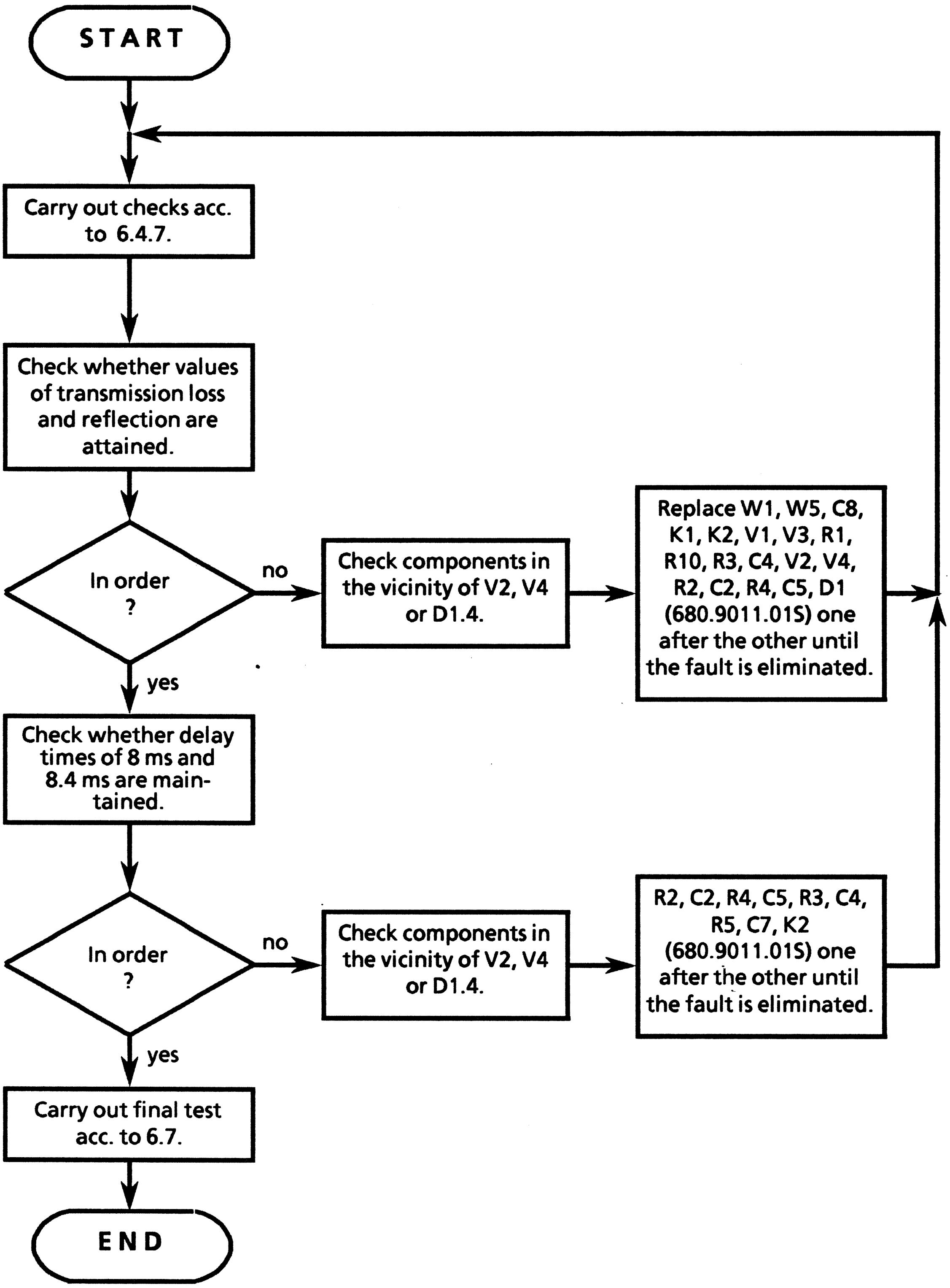


Fig. 6.7 Troubleshooting Flowchart, Tx / Rx Relay

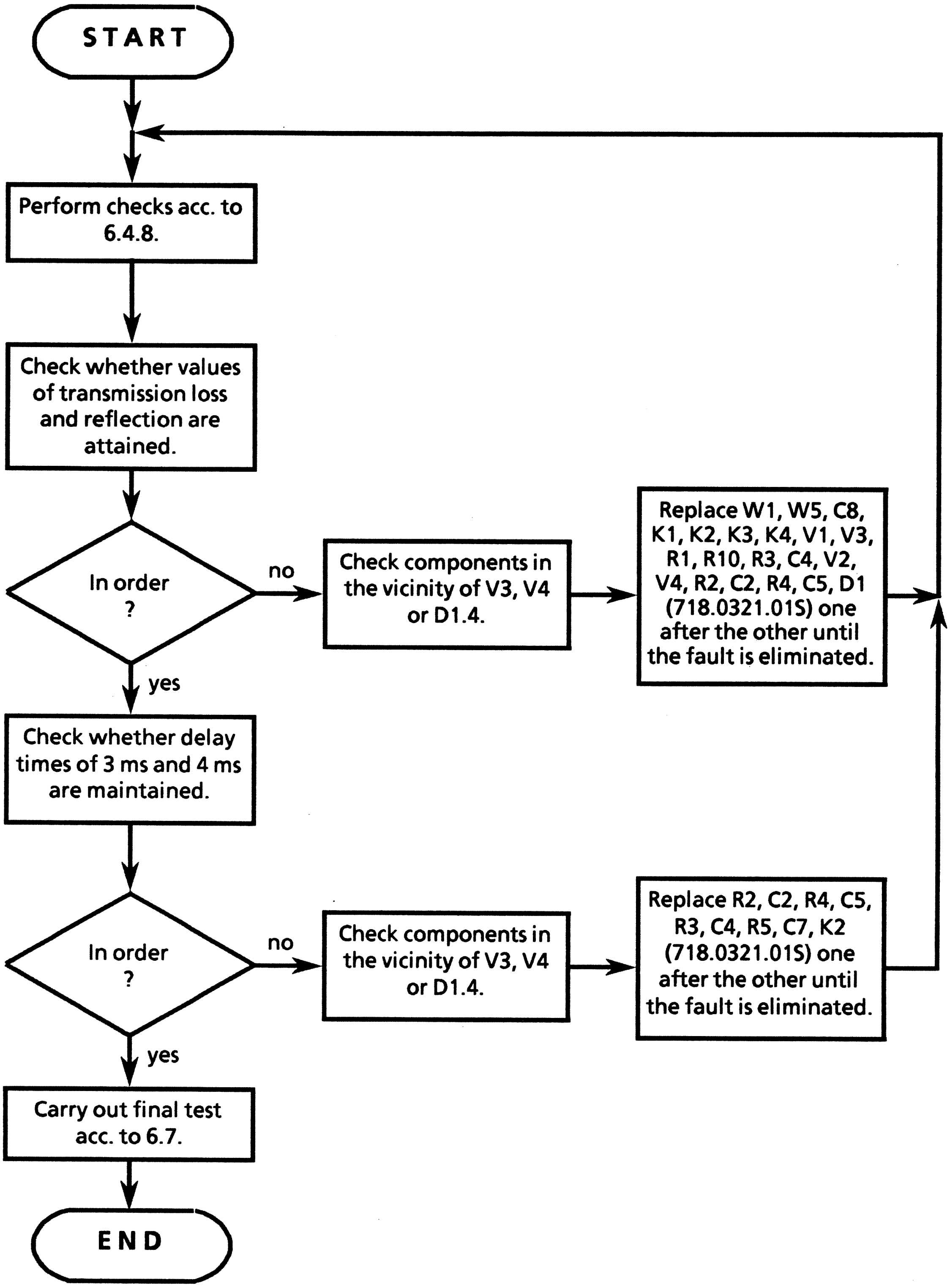


Fig 6.8 Troubleshooting Flowchart, Tx / Rx Reed Relay

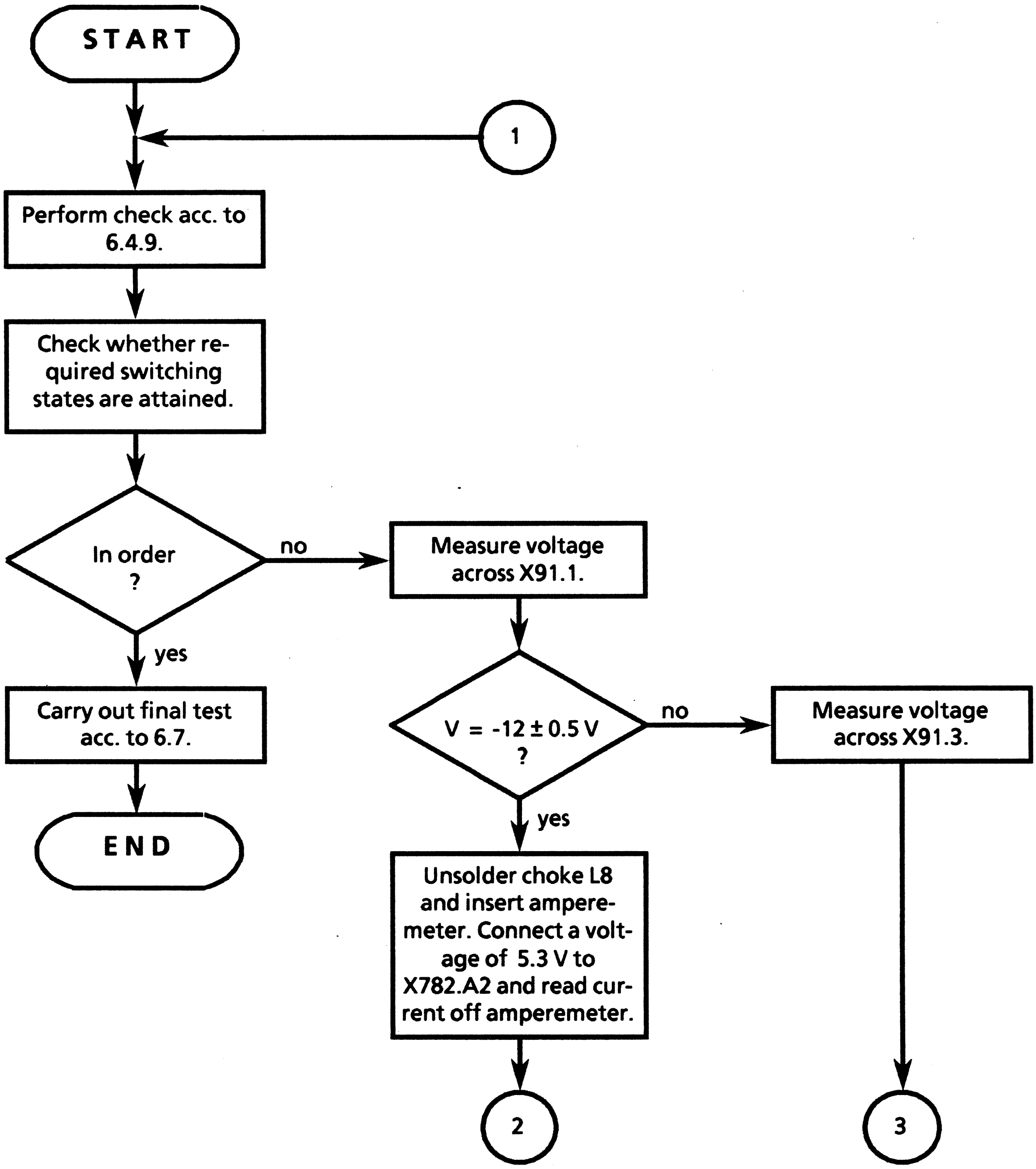


Fig. 6.9 Troubleshooting Flowchart, Tx / Rx PIN Diode Switch I (page 1 of 4)

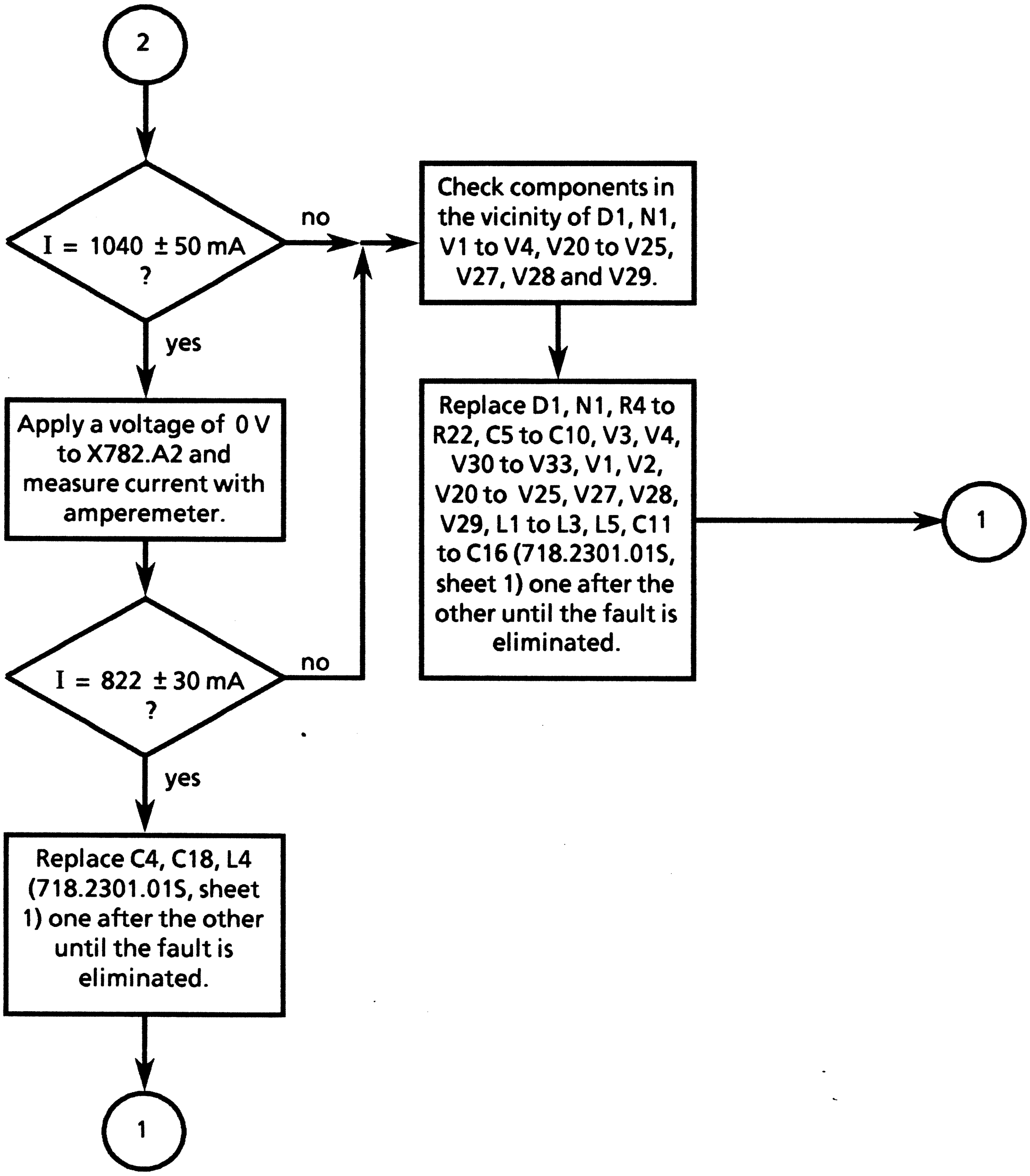


Fig. 6.9 Troubleshooting Flowchart, Tx / Rx PIN Diode Switch I (page 2 of 4)

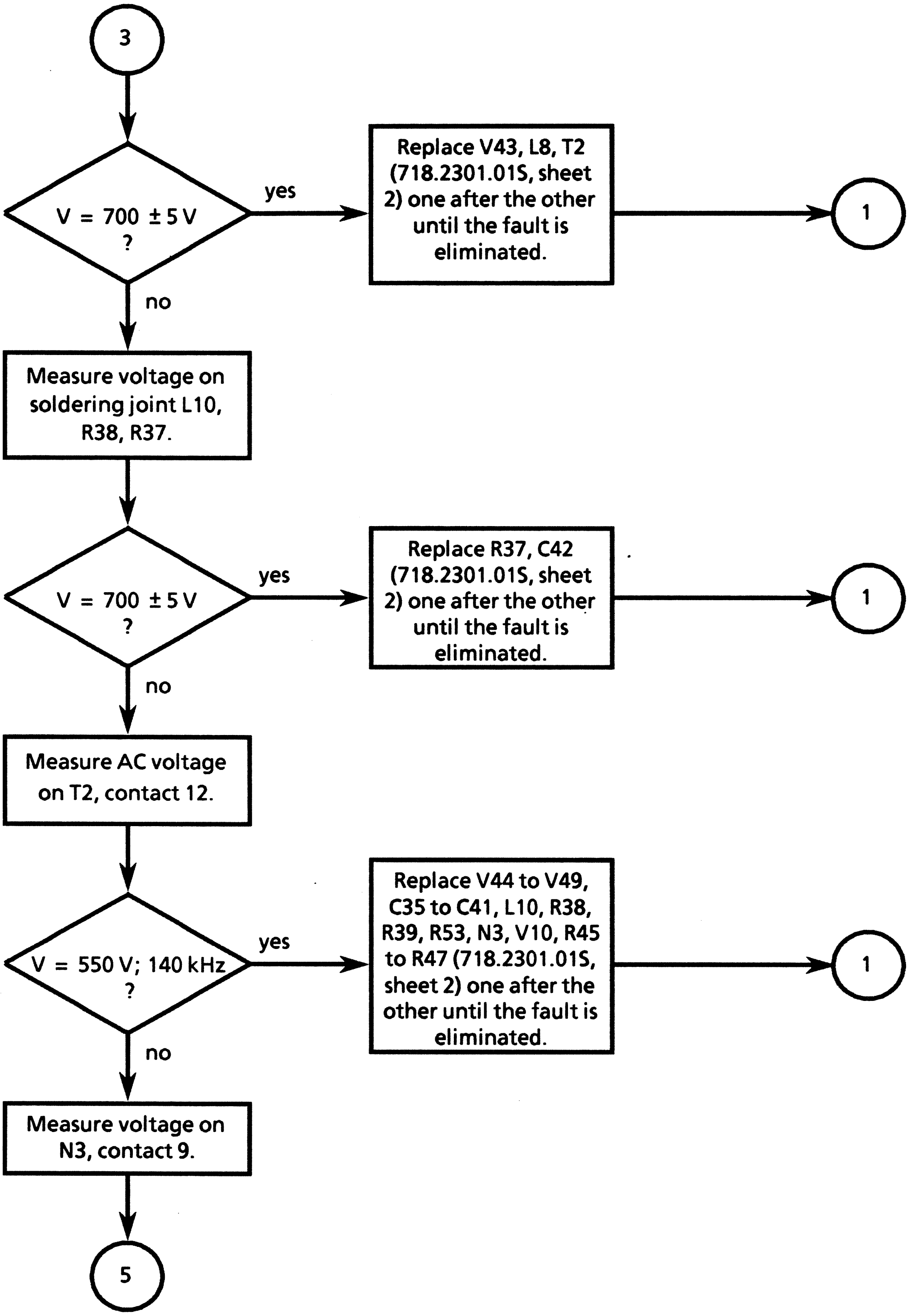


Fig. 6.9 Troubleshooting Flowchart, Tx / Rx PIN Diode Switch I (page 3 of 4)

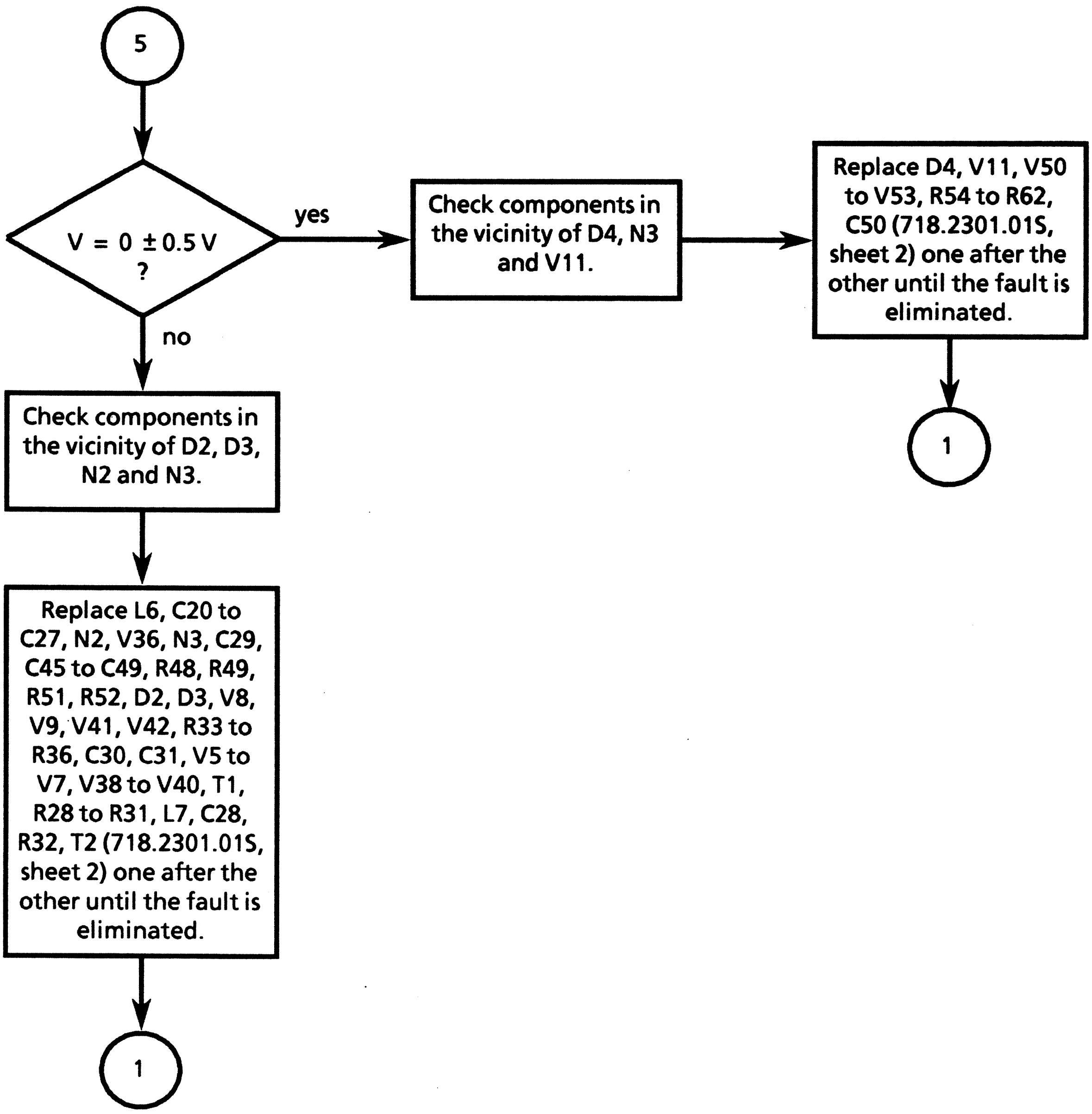


Fig. 6.9 Troubleshooting Flowchart, Tx / Rx PIN Diode Switch I (page 4 of 4)

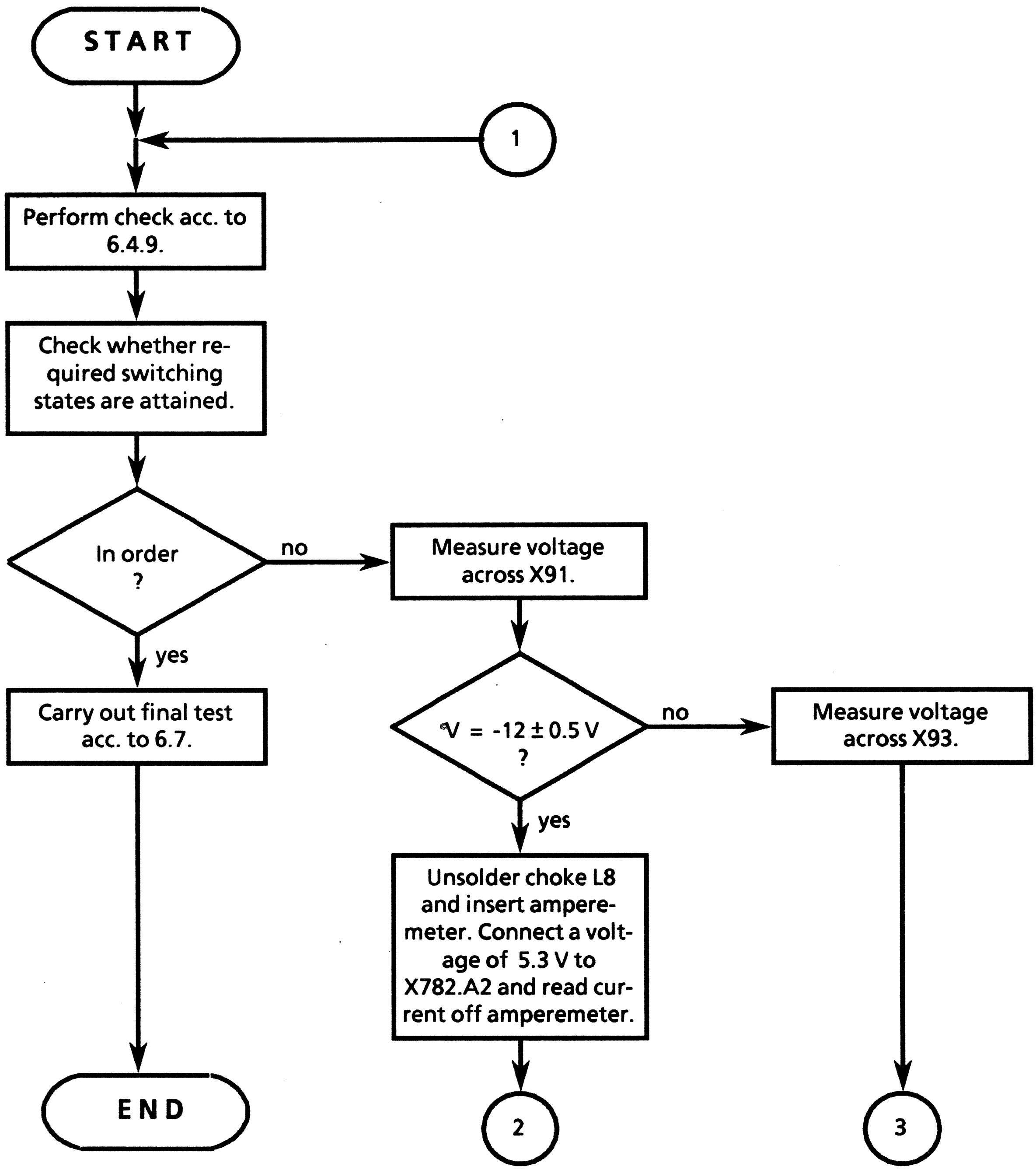


Fig. 6.10 Troubleshooting Flowchart, Tx / Rx PIN Diode Switch II (page 1 of 4)

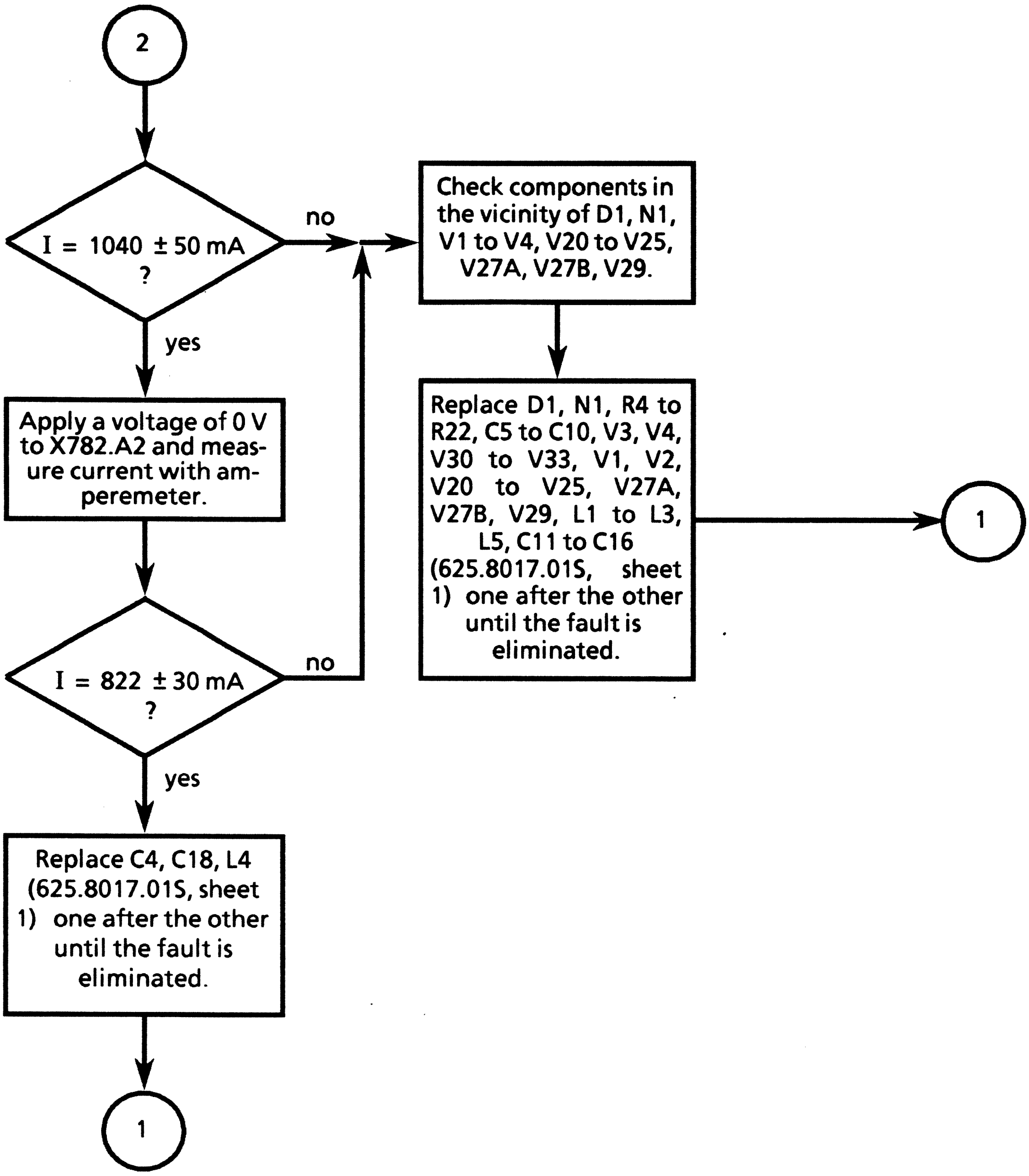


Fig. 6.10 Troubleshooting Flowchart, Tx / Rx PIN Diode Switch II (page 2 of 4)

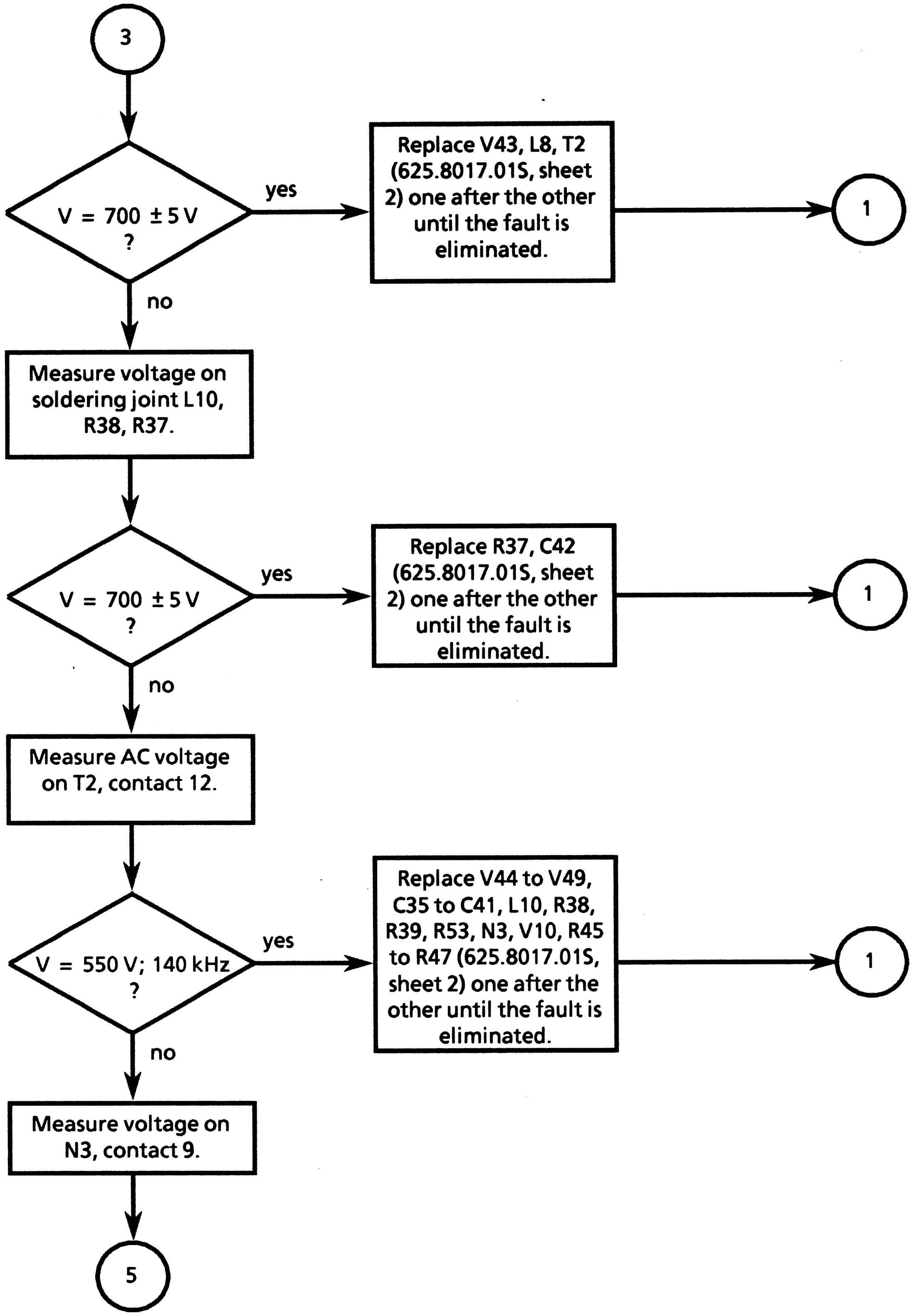


Fig. 6.10 Troubleshooting Flowchart, Tx / Rx PIN Diode Switch II (page 3 of 4)

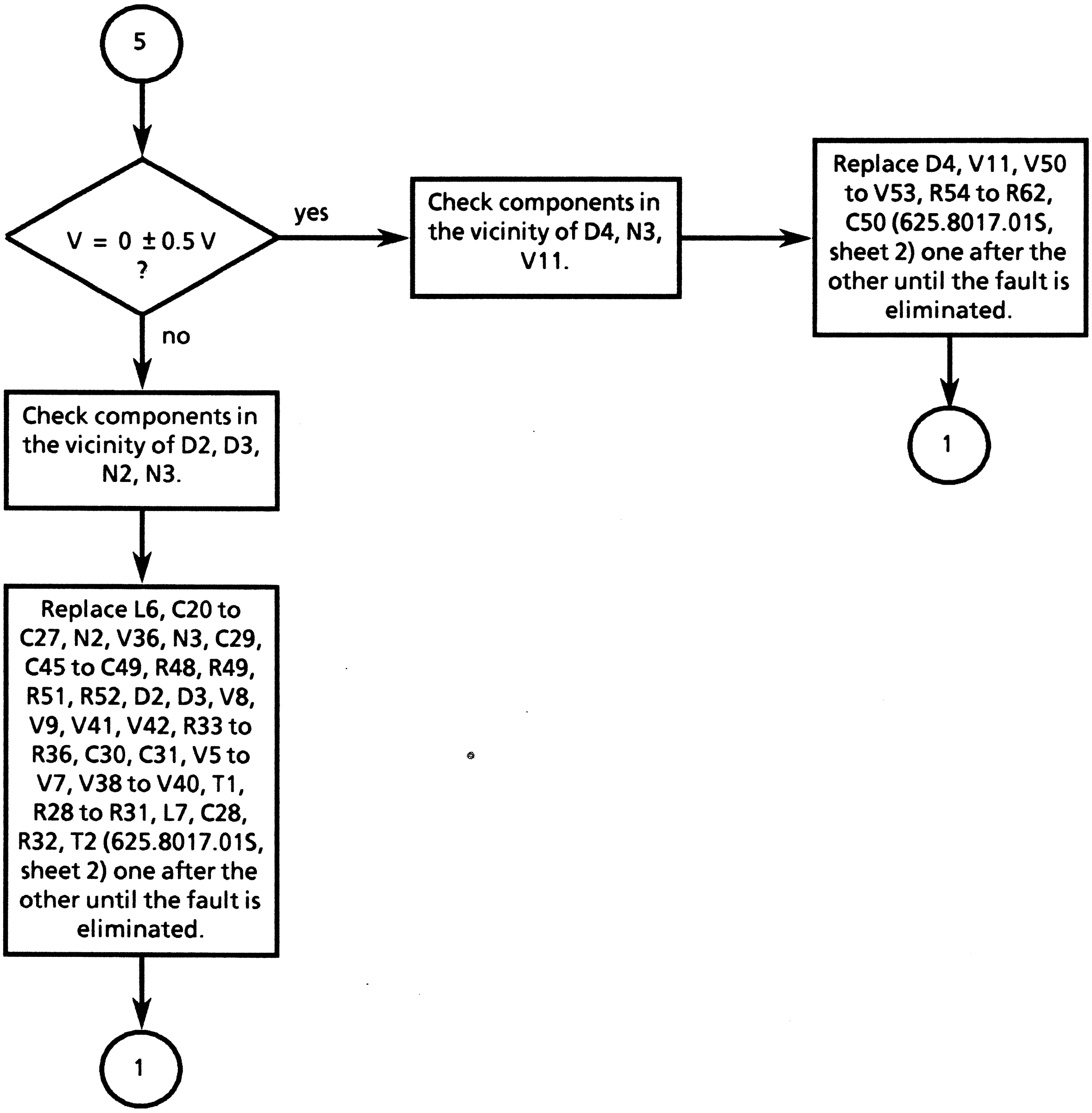


Fig. 6.10 Troubleshooting Flowchart, Tx / Rx PIN Diode Switch II (page 4 of 4)

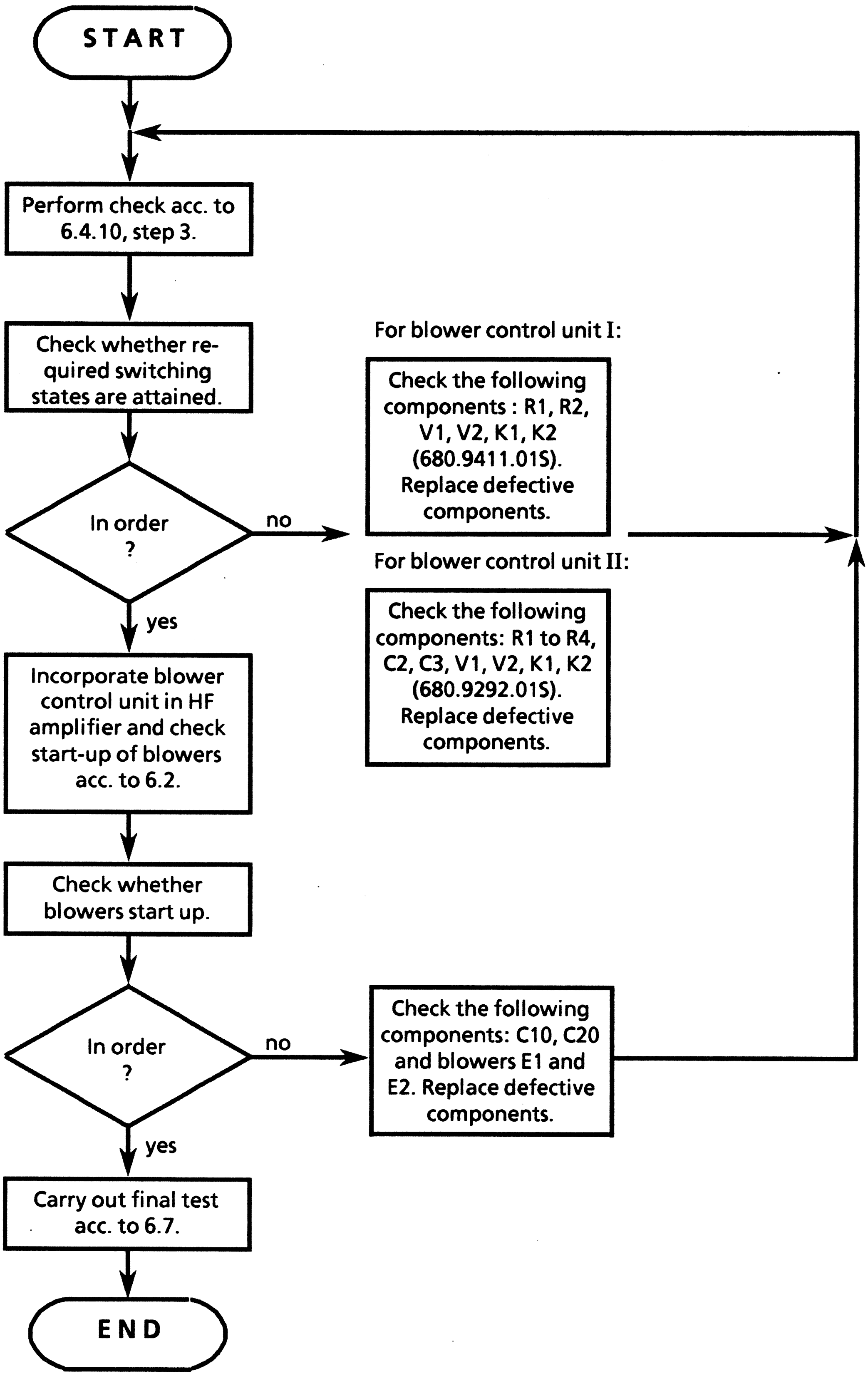


Fig. 6.11 Troubleshooting Flowchart, Blower Control Unit I or II

6.4 Measurements and Functional Checks

The measurements and functional checks described below are the more detailed procedures to the instructions given in condensed form in the troubleshooting flowcharts. Consequently these measurements and functional checks are usually undertaken by branching out of the troubleshooting flowcharts at a particular point. When the measurement etc. has been performed, return to the troubleshooting and continue at the same point where it has been left.

If a fault has been clearly identified beforehand, however, one can of course commence with one of these measurements etc. directly.

Open the HF Power Amplifier 1 kW VK 859C1 acc. to 6.6.

6.4.1 Functional Check of HF Power Amplifier 1 kW

1. Arrange test set-up acc. to Fig. 6.12.

   Set all power supply units to the values given in the test set-up.

   Set data bus on test adapter as follows:

D0	D1	D2	D3	D4	D5	D6	D7
1	1	1	0	1	0	0	1

   Set signal generator to f = 30 MHz and output level to -6 dBm.

   Switch on PTT on the test adapter.

2. Set data bus on test adapter as follows:

D0	D1	D2	D3	D4	D5	D6	D7
1	0	1	0	1	0	0	1

   Measure HF output power.

   Nominal value:
   $P_{HF\ output}$ = 1000 W ± 1 dB

   By means of R46 in the amplifier control set forward power to 980 ± 70 W.

3. Connect a second attenuator RBS in parallel to the first and align the forward power to 550 W (-0 W / + 50 W) by means of R349.

   Disconnect the second attenuator connected in parallel.

4. Set data bus on test adapter as follows and measure HF output:

D3	D4	D5	Nominal value
0	0	0	100 W ± 1 dB
1	0	0	250 W ± 1 dB
0	0	1	100 W ± 1 dB
1	1	1	100 W ± 1 dB

5. Reduce voltages of the two power supply units 50 / 40 to 28 V each. Set data bus on test adapter as follows and measure HF output:

D3	D4	D5	Nominal value
1	0	1	100 W ± 1 dB

6.4.2 Functional Check of Amplifier Control

1. Arrange test set-up acc. to Fig. 6.13.

   Set all power supply units to the values given in the test set-up.

   Measure reference voltage on connector X3: 5.3 ± 0.005 V; adjust as necessary by means of R69. Ensure that jumper X21 is inserted in contacts X2.2 and X2.3. Turn R46 fully counter-clockwise. Using power supply, feed in a voltage of 10 ± 0.5 V at X12.7 referred to X12.15.

2. Measure voltages according to the following table:

Connector / Contact		X19	Measured voltage
X12, X13, X14	X17		
.11, .12	.AB8		16 V
.9, .10	.AB7		-16 V
.13, .14	.A9		5.3 V
	B1.2	a.2	10 V

3. Referred to X12.15 (0 V) apply a voltage of $<$ 3.40 ±0.1 V to X12.4 and to X12.1 a voltage of $<$ 3.3 ±0.1 V using triple power supply.

   Measure voltage on X1.A10.

   Nominal value: + 5.3 V

   Increase both voltages on X12.4 and X12.1 above their switching thresholds. Measure voltage at X1.A10.

   Nominal value: 0 V

   Reduce voltages on X12.4 and X12.1 below their switching thresholds.

   Briefly switch off supply voltage of 5.3 V on triple power supply and switch on again.

   Measure voltage on X1.A10.

   Nominal value: + 5.3 V

4. Connect contact X17.A2 to X17.A9.

   Referred to X12.15 (0 V) apply a voltage of 0 V to X13.3, X14.3 and X12.2 each using triple power supply.

   Measure voltage on X1.A13.

   Nominal value: 5.3 V

   With triple power supply feed in the following voltages one after the other:

   on X13.3 $>$ 1.74 ±0.1 V
   on X14.3 $>$ 1.74 ±0.1 V
   on X12.2 $>$ 2.9 ±0.1 V

   In each case measure voltage on X1.A13.

   Nominal value: 0 V

   Connect contact X17.A2 to X12.15 and switch on PTT on test adapter.

   Measure voltage on X1.A13.

   Nominal value: 0 V

5. Connect contacts X13.7 and X14.7 to X13.A9 and X14.A9 respectively.

   Referred to contact X12.15 (0 V) feed in a voltage of 2 V on X13.2 and X14.2 each using triple power supply.

   Measure voltage on X1.A11, .A12 and X1.B12.

   Nominal value: 5.3 V

   Connect contact X13.7 to .15.

   Measure voltage on X1.A11 and .B12.

   Nominal value: 0 V

   Connect contact X14.7 to .15 and measure voltage on X1.A12 and .B12.

   Nominal value: 0 V

   Connect contacts X13.7 and X14.7 to X13.A9 and X14.A9 respectively.

   Using triple power supply apply a voltage of 2 V to X13.2 and a voltage of $>$ 4 V to X14.2. Measure voltage on X1.A11 and .B12.

   Nominal value: 0 V

   Using triple power supply apply a voltage of $>$ 4 V to X13.2 and a voltage of 2 V to X14.2. Measure voltage on X1.A2 and .B12.

   Nominal value: 0 V

6. On test adapter set switches D3 and D5 to 0 and D4 to 1. On X17.A3 apply a voltage of + 1.5 V using triple power supply.

   Measure voltage on X1.B10.

   Nominal value: 5.3 V

   Slowly increase the voltage on X17.A3.

   With a voltage of 2.65 V ±0.1 V on X17.A3 the voltage on X1.B10 must drop from 5.3 V to 0 V.

7. On X17.A3 and .A1 each apply a voltage of 0 V using triple power supply. Measure the voltage on X1.B11.

   Nominal value: 5.3 V

   On X17.A3 apply a voltage of 0 V and on X17.A1 a voltage of 0.35 ±0.05 V. Measure the voltage on X1.B11.

   Nominal value: 0 V

   On X17.A3 apply a voltage of 4.9 ±0.1 V and on X17.A1 a voltage of +1.95 V. Measure the voltage on X1.B11.

   Nominal value: 5.3 V

8. Using triple power supply apply a voltage of < 0.2 V on X12.2 and on X1.A1 a voltage of -5 V. Connect X13.5, X14.5, X12.4 and .1 to X12.15 (0 V) and X17.A4 and .A2 to .A9. Set PTT switch on the adapter to OFF and switch D3 to D5 to 0.

   Measure voltage on X12.3.

   Nominal value: 5.3 V

   Measure voltages on X12.6, X13.1 and X14.1.

   Nominal value: 0 V

   Change switch settings on the adapter one after the other acc. to the following table, in each case measuring the stated voltage (unnamed inputs remain unchanged in each case).

Adapter Switches	Voltage Measurements			
	X12.3	X12.6	X13.1	X14.1
PTT ON D3 1	0 V	5.3 V	5.3 V	5.3 V
D3 0 D5 1	0 V	5.3 V	5.3 V	0 V
D3 1 D4 1	0 V	5.3 V	0 V	5.3 V
D5 0	0 V	0 V	0 V	0 V
D4 0 D5 1	0 V	5.3 V	5.3 V	5.3 V

According to the following table, join contacts or apply stated voltages to contacts using triple power supply and measure whether 0 V is applied to X12.6, X13.1 and X14.1.

Connect Following Contacts		Apply Following Voltages	
X17.A4	X17.A10		
X17.A4 X17.A2	X17.A9 X17.A10		
X17.A2	X17.A9	X13.5	5.7 ±0.1 V
X13.5	X13.15	X14.5	5.7 ±0.1 V
X14.5	X14.14	X12.7, .8	43 ±1 V
		X12.7, .8 X1.A1	10 ±0.1 V 5.3 V
		X1.A1 X12.4 X12.1	-5 V > 3.50 V > 3.40 V

<u>*Note:*</u>

Reset by switching off logic voltage of 5.3 V and switching on again after removing voltage on X12.4 or X12.1.

9. Connect X19.A1 and .B1 to X13.13, each across a resistance of 10 kΩ.

   According to the following table, apply voltages from triple power supply or make connections, set PTT switch on the adapter accordingly and measure stated voltages at the same time.

PTT	Connect Following Contacts Apply Voltages			Measure	
	X13.3	X14.3	X12.2	X19.B1	X19.A1
OFF	X13.15	X14.15	X12.15	5.3 V	5.3 V
OFF	> 1.25 V ± 50 mV	X14.15	X12.15	5.3 V	5.3 V
ON	> 1.25 V ± 50 mV	X14.15	X12.15	0 V	5.3 V
ON	> 1.25 V ± 50 mV	> 1.4 V ± 50 mV	X12.15	0 V	0 V
ON	X13.15	X14.15	>2.2 V ± 0.1 V	0 V	0 V

10. On the adapter set switch PTT to ON and measure the voltages on X17.B4 and .B6.

    Nominal value: 5.3 V without delay

    On the adapter set PTT switch to OFF and measure the voltages on the following contacts.

    Nominal value:

    X17.B4: 0 V without delay

    X17.B6: 0 V after approx. 10 s

11. On the adapter set switches D0, D1 and D2 one after the other to 1 and measure the voltages on X1.B1, .B2 and .B3.

    Nominal value: 5.3 V

    On the adapter set switches D0, D1 and D2 one after the other to 0 and check whether the voltage at X1.B1, .B2 and .B3 at the same time drops to 0 V.

12. On X17.A3, X13.4, X13.5, X14.4 and X14.5 each apply a voltage of 4 V and on X13.3 and X14.3 each a voltage of 1.2 V using triple power supply. Measure the voltages on test contacts X4.3 and X4.4.

    Nominal value: -4.2 ± 0.5 V

13. Apply a voltage of + 1.63 V on X17.A1 using triple power supply. Measure the voltage on test contact X4.5.

    Nominal value: 0 V ± 0.2 V

14. Using triple power supply either apply a voltage of 3.2 V to X13.4 and connect X14.4 to X14.15, or apply a voltage of 3.2 V to X14.4 and connect X13.4 to X13.15. Measure the voltage of operational amplifier N7.8.

    Nominal value: -1.2 ± 0.1 V

15. Using triple power supply apply a voltage of 5 V on X17.A3. On the adapter set switches D3 and D5 to 0 and D4 to 1. Actuate Strobe 5 switch on the adapter. Measure voltage on test contact X4.2.

    Nominal value:

    after approx. 1 s + 2.8 V ± 0.3 V

16. Set switches D3 to D5 on the adapter according to the following table. Using triple power supply NGT 20 apply the stated voltages to X17.A3 and measure given voltages on test contact 4.1.

Adapter Setting			Voltage on X17.A3	Voltage measured on X4.1
D3	D4	D5		
0	0	0	2 V	7.6 ± 0.2 V
1	0	0	3 V	6.3 ± 0.2 V
0	1	0	5 V	2.8 ± 0.2 V

17. Turn R349 fully counter-clockwise. Using triple power supply apply a voltage of + 2 V to X17.A3 and X17.A1 each. Measure voltage on N10.1.

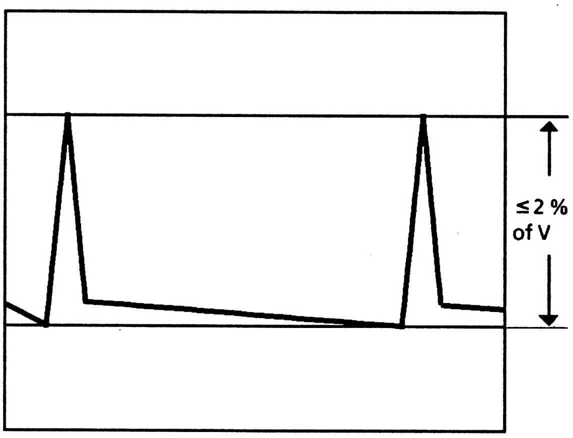
    Nominal value: + 2.5 V ± 0.3 V

18. Connect contacts X13.2, .3 and .4 to .15, X14.2, .3 and .4 to .15 and X17.A1 to .A10.

    On the adapter set switches D4 to D6 to 0 and D3 and D7 to 1.

    Using generator apply a sinusoidal AC voltage of f = 100 Hz to X17.A3. Slowly increase amplitude starting at V = 1 V and measure signal on X18.2 with an oscilloscope.

    Nominal value:



With an average DC voltage of + 2 ± 0.2 V on X18.2 the amplitude of oscillations may not exceed 2 % of the corresponding amplitude on X17.A3.

Reduce amplitude of the AC voltage to 0 V. The signal on X18.2 immediately drops to 0 V (0.6 V) with a time constant of 5 s.

On the adapter set switch D7 to 0. Using generator apply an AC voltage of f = 1 kHz on X17.A3. Slowly increase amplitude starting at V = 1 V until approx. + 5 V are available on X18.2.

When the AC voltage is switched off, the signal on X18.2 is maintained for approx. 5 s and then drops to 0 V (0.6 V) with a time constant of 5 s.

On the adapter set switches D4 and D7 to 1.

Feed in a voltage of 2 V on X17.A3 using triple power supply. Measure voltage on X18.2.

Nominal value: < 0.8 V

6.4.3 Functional Check of Preamplifier

1. Arrange test set-up according to Fig. 6.14. Set all power supply units to the values given in the test set-up. On the adapter set PTT switch to ON. Read off quiescent currents on the amperemeter.

   Nominal values:

   6.5 ± 0.1 A (before warm-up phase)
   7.5 ± 1 A (after warm-up phase)

2. Measure voltage on X12.2.

   Nominal value: 0.5 ± 0.15 V at 25° C

3. Measure input impedance on X21 (P_{HF} = 13 dBm) using network analyzer.

   Nominal values (referred to 50 Ω):

   1.5 MHz < f < 30 MHz, VSWR < 1.7

4. Arrange test set-up according to Fig. 6.15. Set all power supply units to the values given in the test set-up.

   On the adapter set PTT switch to ON.

   Using a signal generator set an HF signal with a level of 13 dBm ± 1.5 dB and, one after the other, set frequencies of 1.5 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz, 30 MHz.

   Measure output power on X32 and X42. Allow for level correction because of resistance division (50 Ω ∥ 50 Ω) and attenuation of directional coupler.

   Nominal values: 41 dBm ± 0.5 dB
   = 12.6 W ± 0.5 dB

5. On the adapter set switch D4 to 0.

   Measure output power on one of the outputs. Allow for level correction because of resistance division (50 Ω ∥ 50 Ω) and attenuation of directional coupler.

   Nominal values: 31 dBm ± 0.5 dB
   = 1.26 W ± 0.5 dB

6. On the adapter set switch D4 to 1.

   Set a signal generator (XPC) to 5 MHz and level such that the output power is 41 dBm ± 0.5 dB.

   Allow for level correction because of resistance division (50 Ω ∥ 50 Ω) and attenuation of directional coupler. Signals V_{DS1} on X12.4 and V_{DS2} on X12.1:

   Nominal values: V_{DS1} = 2.5 ± 0.35 V
   V_{DS2} = 2.8 ± 0.15 V

7. Separate connection with X12.6 and connect generator to preamplifier. Set generator to f = 10 Hz TTL signal. Switch on square-wave generator.

   Measure rise and decay time of HF envelope.

   Nominal value: < 1 ms

   Perform measurement for second HF output.

   Remove generator and re-establish connection between X12.6 and HF amplifier.

8. Set second signal generator (XPC) to a frequency 1 kHz lower than that of the first signal generator. On both signal generators set an identical level so that the output power of the preamplifier is 14 W PEP ± 0.5 dB. Allow for level correction because of resistance division (50 Ω ∥ 50 Ω) and attenuation of directional coupler.

   With frequencies of 1.5 MHz and 5 MHz measure attenuation of intermodulation products referred to useful signal using spectrum analyzer.

   Nominal values: d3 ≥ 37 dB
   d5 ≥ 50 dB

   For f = 15 MHz and 29.998 MHz on both signal generators set an identical level such that the output power of the preamplifier is 10 W PEP ± 0.5 dB.

   Allow for level correction because of resistance division (50 Ω ∥ 50 Ω) and attenuation of directional coupler.

   Nominal values: d3 ≥ 40 dB
   d5 ≥ 50 dB

6.4.4 Functional Check of 500-W Output Stage

1. Arrange test set-up according to Fig. 6.16. Set all power supply units to the values given in the test set-up.

   On the adapter set PTT switch to ON.

   Using amperemeter measure quiescent current.

   Nominal value: I = 4 A

2. Using network analyzer measure the input impedance on X32.

   Nominal value (referred to 25 Ω):

   1.5 MHz < f < 30 MHz, VSWR < 1.8

3. Arrange test set-up according to 6.17. For this purpose disconnect cable W21 from the second output stage (X42) and terminate with 25 Ω / 10 W.

   Set all power supply units to the values given in the test set-up.

   On the adapter set PTT switch to ON.

   On a signal generator set an HF signal with a frequency of 1.5 MHz and a level such that the output power is 600 W. Allow for level correction because of the T-piece, attenuator and directional coupler.

   Measure current consumption using amperemeter.

   Nominal value: I ≤ 31 A

   Repeat measurement at 10 MHz, 20 MHz and 30 MHz.

4. On a signal generator set a frequency of 10 MHz and a level such that the output power is 550 W PEP. Allow for level correction on the output. Using digital voltmeter measure voltage on X31.7.

   Nominal value: 5.3 V

   One after the other short R114, R214, R314 and R414 and measure voltage on X31.7 while resistors are shorted using digital voltmeter.

   Nominal value: 0 V

5. On a signal generator set a frequency 1 kHz lower than that of the other signal generator for the following series of measurements. Measure intermodulation spacing for the frequencies of 1.5 MHz, 10 MHz, 15 MHz, 20 MHz and 29.998 MHz and for an output power of 550 W PEP (allow for level correction on the output) using spectrum analyzer.

   Nominal value: > 30 dB

6.4.5 Functional Check of Combiner

1. Measure input reflections in the frequency range of 1.5 to 30 MHz using network analyzer.

   Calibrate network analyzer for Z_O = 25 Ω. Measure with 25-Ω cable. Terminate HF output X75 with 50 Ω. Short HF output X54.

   Measure input reflection on X53.

   Nominal values (referred to 25 Ω):

   1.5 MHz ≤ f ≤ 3 MHz, VSWR < 1.2, S_{11} ≥ 21 dB

   3 MHz < f ≤ 27 MHz, VSWR < 1.1, S_{11} ≥ 26.4 dB

   27 MHz < f ≤ 30 MHz, VSWR < 1.15, S_{11} ≥ 23 dB

   Remove short-circuit from X54. Short HF input X53.

   Measure input reflection on X54.

   Nominal values (referred to 25 Ω):

   1.5 MHz ≤ f ≤ 3 MHz, VSWR < 1.2, S_{11} ≥ 21 dB

   3 MHz < f ≤ 27 MHz, VSWR < 1.1, S_{11} ≥ 26.4 dB

   27 MHz < f ≤ 30 MHz, VSWR < 1.15, S_{11} ≥ 23 dB

2. Measure transmission loss in frequency range of 1.5 to 30 MHz using network analyzer.

   Calibrate network analyzer for Z_O = 50 Ω. Use 50-Ω cable. Terminate HF input X54 with 25 Ω.

   Measure transmission loss between X53 and X75.

   Nominal value: see diagram showing permissible tolerance of transmission loss in Fig. 6.18.

   Terminate HF input X53 with 25 Ω. Measure transmission loss between X54 and X75.

   Nominal value: see diagram showing permissible tolerance of transmission loss in Fig. 6.18.

   Replace combiner in case the nominal values are not attained in the functional check.

6.4.6 Functional Check of Harmonic Filter

1. Arrange test set-up according to Fig. 6.19.
2. Set all power supply units to the values given in the test set-up.
3. On the adapter set PTT switch to ON. Blower starts up without delay.
4. On the adapter set PTT switch to OFF. Blower continues to run for 10 s. Set PTT switch to ON.
5. On the adapter set harmonic filter band to 1.5 MHz to 2.199 MHz (see Fig. 6.1): D2 = 0, D1 = 0, D0 = 0.
6. Set a frequency of 1.5 MHz on the signal generator and carefully increase output voltage until a forward voltage of $V_{forward}$ = 4.5 ± 0.05 V is measured on X71.A3.
7. Using power meter measure output power.

   Nominal value: P = 970 W to 1070 W

8. On X71.A1 measure reflected power:

   Nominal value: $V_{reflected} < 210$ mV

9. Perform analogous measurement for 3 MHz, 4 MHz, 5 MHz, 8 MHz, 10 MHz, 20 MHz, 30 MHz.

CAUTION

Set filter bands of harmonic filter correctly in each case.

6.4.7 Functional Check of Tx / Rx Relay

1. Arrange test set-up according to Fig. 6.21. Set all power supply units to the values given in the test set-up. Apply a voltage of 5.3 V to X782.A2. Terminate X67 with 50 Ω. Measure stopband attenuation S21 between W5 and X81 using network analyzer.

   Nominal value: S21 > 60 dB

   Terminate X81 with 50 Ω. Measure transmission loss S21 between W5 and X67 using network analyzer.

   Nominal value: S21 ≤ 0.05 dB

   Calibrate network analyzer for 50 Ω. Terminate X81 and X67 with 50 Ω. Measure input reflection S11 on W5 using network analyzer.

   Nominal value: VSWR ≤ 1.05
   (= S11 ≥ 32.3 dB)

   Terminate W5 with 50 Ω. Apply a voltage of 0 V to X782.A2. Measure transmission loss S21 between X81 and X67.

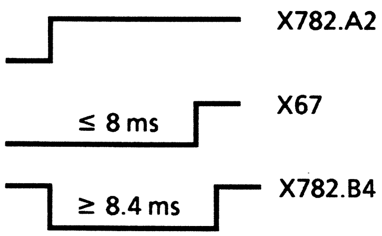
   Nominal value: S21 ≤ 0.1 dB

2. Arrange test set-up according to Fig. 6.22. Set all power supply units to the values given in the test set-up.

   Set generator to a 10-Hz square-wave signal with an amplitude of 5.3 V.

   Synchronize oscilloscope with the same signal and display curves of signals on X67 and X782.B4.

   Nominal values:



6.4.8 Functional Check of Tx / Rx Reed Relay

1. Arrange test set-up according to Fig. 6.21. Set all power supply units to the values given in the test set-up. Apply a voltage of 5.3 V on X782.A2. Terminate X67 with 50 Ω. Measure stopband attenuation S21 between W5 and X81 using network analyzer.

   Nominal value: S21 > 60 dB

   Terminate X81 with 50 Ω. Measure transmission loss S21 between W5 and X67 using network analyzer.

   Nominal value: S21 ≤ 0.05 dB

   Calibrate network analyzer for 50 Ω. Terminate X81 and X67 with 50 Ω. Measure input reflection S11 on W5 using network analyzer.

   Nominal value: VSWR ≤ 1.05
   (= S11 ≥32.3 dB)

   Terminate W5 with 50 Ω. Apply a voltage of 0 V to X782.A2. Measure transmission loss S21 between X81 and X67.

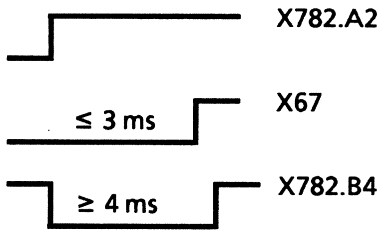
   Nominal value: S21 ≤ 0.1 dB

2. Arrange test set-up according to Fig. 6.22. Set all power supply units to the values given in the test set-up.

   Set generator to a 10-Hz square-wave signal with an amplitude of 5.3 V.

   Synchronize oscilloscope with the same signal and display curves of signals on X67 and X782.B4.

   Nominal values:



6.4.9 Functional Check of Tx / Rx PIN Diode Switch I or of Tx / Rx PIN Diode Switch II

1. Arrange test set-up according to Fig. 6.23. Set power supply units according to the following sequence to values of 5.3 V, 16 V, -16 V, 28 V and switch on. Terminate antenna connection for 50 Ω. Apply a voltage of 5.3 V to X782.A2. Measure stop band attenuation S21 between transmitter connection and X81.

   Nominal value: S21 > 40 dB

2. Terminate X81 with 50 Ω. Measure transmission loss S21 between transmitter connection and antenna connection.

   Nominal value: S21 < 0.05 dB

3. Calibrate network analyzer for 50 Ω. Terminate X81 and antenna connection with 50 Ω. Measure reflection attenuation S11 on transmitter connection using network analyzer.

   Nominal value: VSWR < 1.06
   (S11 > 30 dB)

4. Terminate transmitter connection with 50 Ω. Apply a voltage of 0 V to X782.A2. Measure transmission loss S21 between X81 and antenna connection.

   Nominal value: S21 < 0.05 dB

6.4.10 Functional Check of Blower Control Unit I or II

1. Arrange test set-up according to Fig. 6.24.

2. Set power supply to 24 V.

3. Depending on input signals blower ST1 on X91.B1 and blower ST2 on X91.A1 check voltages on blower terminals X2 and X3 according to the following table.

X91.A1	open	open	0 V
X91.B1	open	0 V	0 V
X2.1	0 V	12 V	0 V
X2.3	0 V	24 V	24 V
X3.1	0 V	0 V	0 V
X3.3	0 V	12 V	24 V

6.5 Setting and Alignment

6.5.1 Setting of Quiescent Currents in the Preamplifier

1. Arrange test set-up according to Fig. 6.14.
2. Set all power supply units to the values given in the test set-up.
3. On the adapter set PTT switch to ON.
4. First set potentiometers R26 and R31 such that 2 V can be measured at the gates of transistors V20A and V20B.
5. Set potentiometer R4 such that a quiescent current of 500 ± 50 mA for V1 is read off the amperemeter.
6. Set R26 such that a sum quiescent current of 3.5 ± 0.1 A for V1 and V20A is read off.
7. Set R31 such that a total sum quiescent current of 6.5 ± 0.1 A for V1, V20A and V20B is read off.

6.5.2 Alignment of Temperature Recording Circuit in the Preamplifier

1. Arrange test set-up according to Fig. 6.14.
2. Set all power supply units to the values given in the test set-up.
3. Unsolder temperature-dependent resistor R60 from soldering points X24 and X25 and instead solder in a resistor of 1.1 kΩ.
4. Select R61 from the E96 series (5.62 kΩ ≤ R61 ≤ 8.25 kΩ) and solder in such that 3.22 V ± 20 mV are applied to X12.2.
5. Remove 1.1-kΩ resistor and solder temperature-dependent resistor R60 back in place.

6.5.3 Setting of Gain in the Preamplifier

1. Arrange test set-up according to Fig. 6.15.
2. Set all power supply units to the values given in the test set-up.
3. On the adapter set PTT switch to ON.
4. On a signal generator set a 30-MHz signal with a level of 13 dBm ± 1.5 dB.
5. By selection of resistor R2 set output power to 14 W (41 dBm) ± 0.5 dB.
6. Select R2 from the E96 series (392 Ω ≤ R2 ≤ 1.5 kΩ) and solder in.

6.5.4 Setting of Quiescent Currents in a 500-W Output Stage

1. Arrange test set-up according to Fig. 6.16.
2. Set all power supply units to the values given in the test set-up.
3. On the adapter set PTT switch to ON.
4. First set potentiometers R143, R242, R243, R342, R343, R442 and R443 such that 1 ± 0.5 V can be measured at the gates of transistors V100B, V200A to V400B .
5. Starting with potentiometer R142 set quiescent currents of power transistors such that the sum quiescent current read off the amperemeter increases by 500 mA with each transistor. The total current is 4 A.

6.5.5 Setting of Gain in Power Stage of 500-W Output Stage

The setting is described here with reference to the power stage containing transistors V100A and V100B. The setting of other stages is analogous.

1. Unsolder R500 and R502 and the resistors of the T-attenuator R100 to R102.
2. Arrange test set-up according to Fig. 6.25.
3. First connect the power meter to the attenuator. On network analyzer set a sweep signal in the range of 1.5 MHz to 30 MHz with such a level that a 150-W output power is indicated on the 150-mW power meter.
4. Remove power meter and connect test input of the network analyzer.
5. Measure gain at 10 MHz.
6. Depending on the gain factor, select and solder in resistors R100 to R102 according to the following table.

dB	R101 / R102	R100
19 to 22	0 Ω	omitted
22 to 22.5	2.74 Ω	1.82 kΩ
22.5 to 23	5.62 Ω	825 Ω
23 to 23.5	8.25 Ω	562 Ω

7. Solder resistors R500 and R502 back in place.

6.5.6 Alignment in Current Measuring Circuit of 500-W Output Stage

1. Arrange test set-up according to Fig. 6.16.
2. Set all power supply units to the values given in the test set-up.
3. On the adapter set PTT switch to OFF.
4. Disconnect power supply units from X630.4.
5. Measure offset voltage on X31.4 ($= V_{offset}$). Reconnect power supply units to X630.4.
6. Select R83 from E96-resistor series and solder in such that offset voltage on X31.4 is $V_{offset} \pm 100$ mV.

6.5.7 Alignment of Filters in the Harmonic Filter

Arrange test set-up according to Fig. 6.20. Set all power supply units to the values given in the test set-up. Alignment is made by pressing together (increase in inductance) or pulling further apart (decrease in inductance) of the windings. Allow for the influence of the cover when aligning. Alignment is made in the following sequence:

1. Alignment of centre coil on stopband at pole frequency stated in Fig. 6.26 .
2. Alignment of other coils is made such that reflection reaches value stated in Fig. 6.26.
3. Check of values stated in Fig. 6.26 for stopband attenuation or transmission loss. Peaks of > 25 dB are admissible in the stopband.

6.5.8 Alignment of Reflected and Forward Signals in the Harmonic Filter

1. Arrange test set-up according to Fig. 6.19.

2. Set all power supply units to the values given in the test set-up.

3. On the adapter set PTT switch to ON and switches D0 to D2 to 1.

4. Connect signal generator to X620.2 of the HF amplifier instead of the HF input of the adapter.

CAUTION

For the following steps take care that the bands of the harmonic filter are set correctly.

5. Set signal generator to 30 MHz and 1.5 MHz and such a high level that the measured output power is 1000 W.

6. On the adapter set PTT switch to OFF. Change over HF terminals X75 and X67 of the harmonic filter.

7. On the adapter set PTT switch to ON. Measure DC voltage on X71.A3 on the harmonic filter and align to minimum (< 300 mV) by means of C804.

8. On the adapter set PTT switch to OFF. Change back HF terminals X75 and X67 of the harmonic filter.

9. Set signal generator to 5 MHz. On the adapter set switches D0 and D1 to 1, D2 to 0 and PTT to ON.

10. Measure DC voltage on X71.A3 and set to 4.5 ± 0.05 V by means of R47.

11. On the adapter set PTT switch to OFF. Set 30 MHz on the signal generator. On the adapter set switches D0 to D2 to 1 and PTT to ON. Measure voltage and align to minimum by means of C805. Repeat measurement for 1.5 MHz.

    At both frequencies the reflected signal on X71.A1 must be < 210 mV and its value should be averaged out.

6.5.9 Setting of 700-V Voltage in Tx / Rx PIN Diode Switch

1. Arrange test set-up according to Fig. 6.23.

2. Unsolder wire connection between X10 and X11 on X11.

3. Solder in 100-kΩ resistor between X11 and ground.

4. Set power supply units according to the sequence of 5.3 V, 16 V, -16 V, 28 V and switch on.

5. Using potentiometer R39 set a voltage of 700 ± 5 V on X11.

6. First switch off 28-V power supply then switch off all the other power supply units.

6.6 Replacement of Assemblies and Components

6.6.1 Replacement of 500-W Output Stage A30

1. Place the HF power amplifier 1 kW on the blower hood.
2. Undo 14 screws (1, Fig. 6.27 and 1, Fig. 6.28) holding the cover of the amplifier.
3. Remove the cover.
4. Turn RF connector (12, Fig. 6.28) to the left and withdraw.
5. Unscrew and withdraw RF cable (7).
6. Withdraw 50-V connectors (14).
7. Push locking system to one side and withdraw data bus connector (11).
8. Undo 18 screws (2, 3, 4, 5, 6, 7, Fig. 6.27) holding the front panel of the amplifier.
9. Remove front panel.
10. Undo four screws (11, Fig. 6.28).
11. Pull 500-W output stage A30 upwards and out.
12. Installation of the output stage is in the reverse order to that described above.

6.6.2 Replacement of 500-W Output Stage A40

1. Place the HF power amplifier 1 kW on the blower hood.
2. Undo 14 screws (5, Fig. 6.27 and 1, Fig. 6.32 or Fig. 6.33) holding the bottom of amplifier.
3. Remove the bottom.
4. Turn RF connector (7, Fig. 6.32 or Fig. 6.33) to the left and withdraw.
5. Unscrew RF cable (3) and remove.
6. Unscrew 50-V connectors (8).
7. Push locking system to one side and withdraw data bus connector (5).
8. Undo 18 screws (1, 2, 3, 4, 6, 7, Fig. 6.27) holding the front panel of the amplifier.
9. Remove front panel.
10. Undo four screws (6, Fig. 6.32 or Fig. 6.33).
11. Pull 500-W output stage A40 upwards and out.
12. Installation of the output stage is in the reverse order to that described above.

6.6.3 Replacement of Harmonic Filter

1. Place the HF power amplifier 1 kW on the blower hood.
2. Undo 14 screws (1, Fig. 6.28 and 1, Fig. 6.27) holding the cover of the amplifier.
3. Remove the cover.
4. Withdraw data bus connector (10, Fig. 6.28).
5. Undo 14 screws (1, Fig. 6.32 or Fig. 6.33 and 5, Fig. 6.27) holding the bottom of amplifier.
6. Remove the bottom.

7. Unscrew and withdraw the RF connector (3, Fig. 6.29 or 6.30 or 6.31). In case an option is screwed to the harmonic filter, turn the RF connector (4, Fig. 6.29 or 6.30 or 6.31) to the left and withdraw it.
8. Undo 10 screws (2, 3, 6, 7, Fig. 6.27) holding the front panel of the amplifier.
9. Undo screw (2, Fig. 6.29 or 6.30 or 6.31) on the right-hand and on the left-hand side panels.
10. Pull front panel with harmonic filter upwards and out.
11. Undo four screws (4, Fig. 6.27) fixing harmonic filter to front panel.
12. Remove front panel.
13. Installation of the harmonic filter is in the reverse order to that described above.

6.6.4 Replacement of Combiner

1. Place the HF power amplifier 1 kW on the blower hood.
2. Remove output stage A40 according to 6.6.2.
3. Turn the RF connector (3, Fig. 6.29 or 6.30 or 6.31) to the left and withdraw it.
4. Unscrew and withdraw the RF connector (2, Fig. 6.32 or Fig. 6.33).
5. Unscrew two cable clamps (10, Fig. 6.32 or Fig. 6.33).
6. Unscrew four screws (9).
7. Pull the combiner upwards and out.
8. Installation of the combiner is in the reverse order to that described above.

6.6.5 Replacement of Preamplifier

1. Place the HF power amplifier 1 kW on the blower hood.
2. Remove output stage A30 according to 6.6.1.
3. Undo 14 screws (5, Fig. 6.27, and 1, Fig. 6.32 or Fig. 6.33) holding the bottom of the amplifier.
4. Remove the bottom.
5. Withdraw 28-V connector (15, Fig. 6.28).
6. Push locking system to one side and withdraw data bus connector (6).
7. Unscrew two cable clamps (16).
8. Turn RF connector (7, Fig. 6.32 or Fig. 6.33) to the left and withdraw it.
9. Unscrew the two cable clamps (10, Fig. 6.32 or Fig. 6.33).
10. Undo four screws (13, Fig. 6.28).
11. Pull the preamplifier upwards and out.
12. Installation of the preamplifier is in the reverse order to that described above.

6.6.6 Replacement of Amplifier Control

1. Place the HF power amplifier 1 kW on the blower hood.
2. Undo 14 screws (1, Fig. 6.28, and 1, Fig. 6.27) holding the cover of the amplifier.
3. Remove the cover.

4. Push locking system of data bus connectors (5, 6, 8, Fig. 6.28) to one side and withdraw connectors.
5. Undo four screws (1, Figs. 6.29 or 6.30 or 6.31) fixing the amplifier control to the right-hand side panel.
6. Withdraw the amplifier control sideways.
7. Withdraw data bus connectors (2, 3, 4, 10, Fig. 6.28).
8. Installation of the amplifier control is in the reverse order to that described above.

6.6.7 Replacement of Tx / Rx Relay

1. Place the HF power amplifier 1 kW on the blower hood.
2. Remove the harmonic filter with Tx / Rx relay according to 6.6.3.
3. Undo 32 screws (1, Fig. 6.34) holding the cover of the harmonic filter.
4. Remove the cover.
5. Undo five screws (10, Fig. 6.34) holding the cover of the harmonic filter control.
6. Remove the cover.
7. Undo four screws (5, Fig. 6.36) holding the cover of the Tx / Rx relay.
8. Remove the cover.
9. Undo contact-screwed joint (8, Fig. 6.34).
10. Unscrew cable strap (7) and cable clamp (6).
11. Undo contact-screwed joint (3, Fig. 6.36).
12. Unscrew cable strap (2) and cable clamp (4).
13. Withdraw control cable connector (9, Fig. 6.34).
14. Unscrew cable clamp (4).
15. Undo four screws (1, Fig. 6.36) fixing the Tx / Rx relay to the harmonic filter.
16. Remove Tx / Rx relay with cables W5 and W10.
17. Attach the cover of the Tx / Rx relay with four screws (5, Fig. 6.36).
18. Installation of the Tx / Rx relay is in the reverse order to that described above.

6.6.8 Replacement of Tx / Rx Reed Relay

1. Place the HF power amplifier 1 kW on the blower hood.
2. Remove the harmonic filter with Tx / Rx reed relay according to 6.6.3.
3. Undo 32 screws (1, Fig. 6.34) holding the cover of the harmonic filter.
4. Remove the cover.
5. Undo five screws (10, Fig. 6.34) holding the cover of the harmonic filter control.
6. Remove the cover.
7. Undo four screws (4, Fig. 6.36) holding the cover of the Tx / Rx reed relay.
8. Remove the cover.
9. Undo contact-screwed joint (8, Fig. 6.34).
10. Unscrew cable strap (7) and cable clamp (6).

11. Undo contact-screwed joint (3, Fig. 6.36).
12. Unscrew cable strap (2).
13. Withdraw control cable connector (9, Fig. 6.34).
14. Unscrew cable clamp (4).
15. Undo the four screws (1, Fig. 6.36) fixing the Tx / Rx reed relay to the harmonic filter.
16. Remove Tx / Rx reed relay with cables W5 and W10.
17. Attach the cover of the Tx / Rx reed relay with four screws (4, Fig. 6.36).
18. Installation of the Tx / Rx reed relay is in the reverse order to that described above.

6.6.9 Replacement of Tx / Rx PIN Diode Switch I

1. Place the HF power amplifier 1 kW on the blower hood.
2. Remove the harmonic filter with Tx / Rx PIN diode switch according to 6.6.3.
3. Undo 32 screws (5, Fig. 6.35) holding the cover of the harmonic filter.
4. Remove the cover.
5. Undo five screws (15, Fig. 6.35) holding the cover of the harmonic filter control.
6. Remove the cover.
7. Undo 11 screws (3, Fig. 6.37) holding the cover of the Tx / Rx PIN diode switch.
8. Remove the cover.
9. Undo contact-screwed joint (13, Fig. 6.35).
10. Unscrew cable strap (12) and cable clamp (11).
11. Undo contact-screwed joint (2, Fig. 6.37).
12. Unscrew cable strap (1).
13. Withdraw control cable connector (14, Fig. 6.35).
14. Unscrew cable clamp (8).
15. Undo four screws (7) fixing the Tx / Rx PIN diode switch to the harmonic filter.
16. Remove Tx / Rx PIN diode switch with cables W5 and W10.
17. Attach the cover of the Tx / Rx PIN diode switch with 11 screws (3, Fig. 6.37).
18. Installation of the Tx / Rx PIN diode switch is in the reverse order to that described above.

6.6.10 Replacement of Tx / Rx PIN Diode Switch II

1. Place the HF power amplifier 1 kW on the blower hood.
2. Remove the harmonic filter with Tx / Rx PIN diode switch according to 6.6.3.
3. Undo 32 screws (5, Fig. 6.35) holding the cover of the harmonic filter.
4. Remove the cover.
5. Undo five screws (15, Fig. 6.35) holding the cover of the harmonic filter control.
6. Remove the cover.
7. Undo 16 screws (3, Fig. 6.38) holding the cover of the Tx / Rx PIN diode switch.
8. Remove the cover.
9. Undo contact-screwed joint (13, Fig. 6.35).
10. Unscrew cable strap (12) and cable clamp (11).
11. Undo contact-screwed joint (1).
12. Unscrew cable strap (4) and cable clamp (2).
13. Undo contact-screwed joint (2, Fig. 6.38).

14. Unscrew cable strap (1).
15. Withdraw control cable connector (14, Fig. 6.35).
16. Unscrew cable clamp (8).
17. Undo four screws (7) fixing the Tx / Rx PIN diode switch to the harmonic filter.
18. Remove Tx / Rx PIN diode switch with cables W5, W10 and W1.
19. Attach the cover of the Tx / Rx PIN diode switch with 16 screws (3, Fig. 6.38).
20. Installation of the Tx / Rx PIN diode switch is in the reverse order to that described above.

6.6.11 Replacement of Blower Control Unit I or II

1. Place the HF power amplifier 1 kW on its handles.
2. Undo five screws holding the blower hood.
3. Remove the blower hood.
4. Withdraw the socket of the blower cable (X2).
5. Withdraw the socket of the blower cable (X3).
6. Withdraw the socket of the power supply cable (X4).
7. Withdraw the socket of the control cable (X91).
8. Undo 11 screws holding the blower control unit.
9. Remove blower control unit.
10. Installation of the blower control unit is in the reverse order to that described above.

6.6.12 Replacement of RF Power Transistors

CAUTION

The RF power transistors of the push-pull stages are pairs of transistors. In case a single transistor fails, both transistors of the push-pull stage must be replaced. The two transistors of such a pair must have the same data code and colour code or the same combination of letters marking the transistors.

CAUTION

The RF power transistors being incorporated in the preamplifier as well as in the 500-W output stage are MOS field effect transistors. Thus common ESD precautionary measures must be complied with (see also 6.1.4).

Note:

Undo connectors X101 to X104 and remove the respective cable clamps, as necessary.

In case of a fault, replace the RF power transistors as follows:

1. Tin the transistor terminals using a soldering iron taking care that there is a clearance of at least 2 mm with respect to the housing edge.
2. Remove remnants of heat-conducting paste from the surface of the heat sink using a cleaning agent.
3. Apply a thin and even coat of new heat-conducting paste to the contact areas of the transistors. Use a spatula or a similar tool, **no brush!**
4. Take care that the surfaces of the heat sinks and the transistor flanges are clean.
5. Check whether threads of bore-holes on the cooling bolts (for fixation of the transistors) are running well. Also measure their depth (nominal value: 6 +2 mm). For this purpose a screw M 2.5 x 8 can be used.

6. Without using any force alternately and evenly tighten the screws fixing the transistors to the heat sink (→tightening torque = 15 Ncm). Then fasten the screws with a tightening torque of 66 Ncm.

7. Then only clean the soldering joints selectively taking care that the housings of the transistors are not covered by cleaning agent. Remove cleaning agent from the soldering joints using cloth. Do not use compressed air.

CAUTION

Before applying the supply voltage take care that the potentiometers are fully turned counter-clockwise for setting the gate bias voltage.

6.6.13 Replacement of the Output Transformers

<u>*Note:*</u>

The output transformers are installed concentrically.

Undo connectors X101 to X104 and remove the respective cable clamps, as necessary.

In case of a fault, replace the output transformers as follows:

1. No special instructions have to be complied with for the removal of the output transformers.

2. Beginning at the printed circuit, install the transformer concentrically as follows:
   - Washer
   - Transformer
   - Silicon disk
   - Coil holder
   - Silicon disk

3. Apply safety varnish (blue) to the screw-in area.

4. Fix the transformer, coil holder and disks to the printed circuit using an M2.5 x 30-screw. Fasten the screw with a tightening torque of 4 Ncm.

CAUTION

When tightening the screw, take care that the disks and the transformer remain mounted concentrically with respect to one another.

5. Solder the connecting wires of the output transformer to the respective soldering tag according to components layout 680.6129.01, sheet 2.

CAUTION

When carrying out any soldering take care that the connection wires do not touch each other. If required bend the connection wires.

6.7 Final Test

Following repair the HF Power Amplifier 1 kW VK 859C1 must be subjected to a final test to ensure that its technical data can still be guaranteed.

The final test has to be carried out according to Fig. 6.2. For this purpose only the go-branch should be followed.

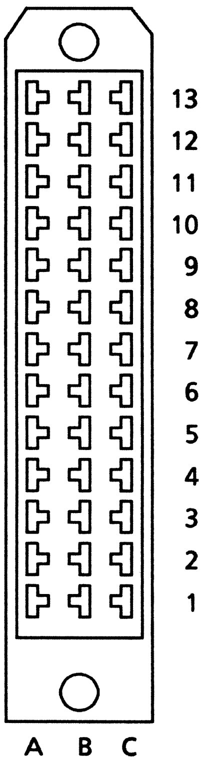
If the final test proves satisfactory, the troubleshooting can be assumed to be completed.

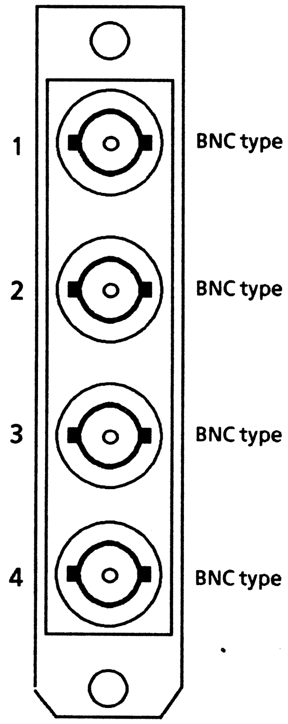
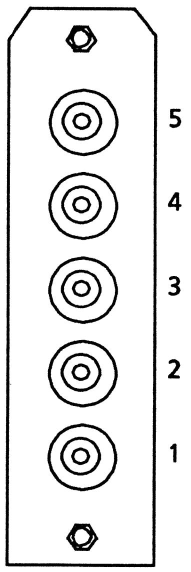
If the final test is not satisfactory, test and troubleshooting must be repeated. This procedure is to be repeated until all faults have been found and eliminated.

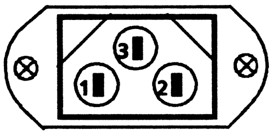
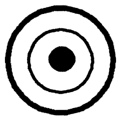
6.8 Interface Description

The interfaces described in this chapter 6.8 define the inputs and outputs of the HF Power Amplifier 1 kW VK 859C1 and its modules.

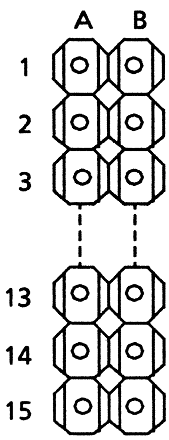
6.8.1 External Interfaces of the HF Power Amplifier 1 kW

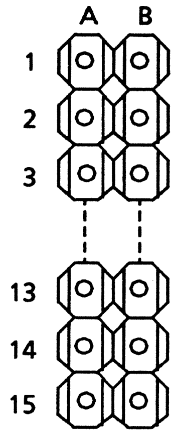
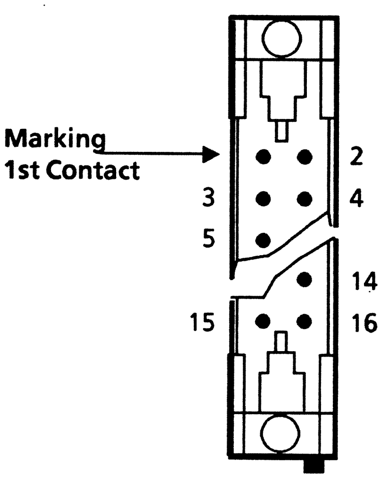
Connector	Contact	Signal, function, level
X61	.A1	GND / 0 V, I ≤ 500 mA
	.A2	+ 5.3 V / power supply / + 5.3 ± 0.1 V, I ≤ 100 mA
	.A3	D7 / 5.3 V CMOS
	.A4	D4 / 5.3 V CMOS
	.A5	D1 / 5.3 V CMOS
	.A6	not used
	.A7	BITE output stage 1 / 5.3 V CMOS, I ≤ 10 mA, $T_R = T_F \leq 1$ µs, $T_H \geq 8$ ms (low)
	.A8	CM HF / 5.3 V CMOS, I ≤ 10 mA, $T_R = T_F \leq 1$ µs, $T_H \geq 8$ ms (low)
	.A9	Transmit / 5.3 V CMOS
	.A10	not used
	.B1	GND / 0 V, I ≤ 500 mA
	.B2	-16 V / power supply / -16 ± 0.5 V, I ≤ 250 mA
	.B3	D6 / 5.3 V CMOS
	.B4	D3 / 5.3 V CMOS
	.B5	D0 / 5.3 V CMOS
	.B6	CM amplifier / 5.3 V CMOS, I ≤ 10 mA, $T_R = T_F \leq 1$ µs, $T_H \geq 8$ ms (low)
	.B7	BITE output stage 2 / 5.3 V CMOS, I ≤ 10 mA, $T_R = T_F \leq 1$ µs, $T_H \geq 8$ ms (low)
	.B8	CM VSWR / 5.3 V CMOS, I ≤ 10 mA, $T_R = T_F \leq 1$ µs, $T_H \geq 8$ ms (low)
	.B9	not used
	.B10	not used
	.C1	GND / 0 V, I ≤ 500 mA
	.C2	+ 16 V / power supply / + 16 ± 0.5 V, I ≤ 250 mA
	.C3	D5 / 5.3 V CMOS
	.C4	D2 / 5.3 V CMOS
	.C5	Strobe 5 / 5.3 V CMOS
	.C6	BITE temperature / 5.3 V CMOS, I ≤ 10 mA, $T_R = T_F \leq 1$ µs
	.C7	BITE preamplifier / 5.3 V CMOS, I ≤ 10 mA, $T_R = T_F \leq 1$ µs
	.C8	Carrier inhibit / high = + 0.2 to + 5 V low = -0.2 to -5 V hysteresis = ± 0.2 V $\lvert$typ. I$\rvert \leq 1$ mA
	.C9	not used
	.C10	not used

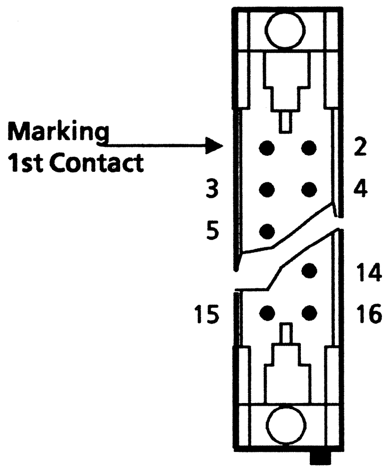
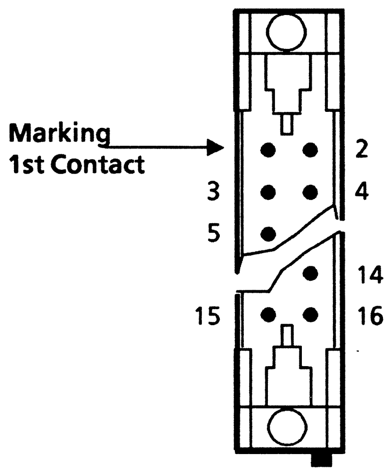
Connector	Contact	Signal, function, level
X62 	.1 .2 .3 .4	not used HF / S1 / 1.5 to 30 MHz, Z = 50 Ω, VSWR ≤ 1.6, + 3 to + 13 dBm HF / E1 / 0.4 to 30 MHz ALC / -0.5 to + 13 V, R_i = 100 to 200 Ω, T_R ≥ 50 µs, T_F ≥ 5 ms, I ≤ 25 mA
X63 	.1 .2 .3 .4 .5	0 V GND / 0 V 40 / 50 V II / 45 to 52 V, I ≤ 31 A, $V_{output} = V_{nom}$ ± 0.5 V + 28 V / power supply / + 28 ± 0.5 V, I ≤ 10.5 A 40 / 50 V I / 45 to 52 V, I ≤ 31 A, $V_{output} = V_{nom}$ ± 0.5 V 0 V GND / 0 V

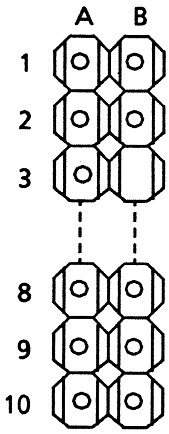
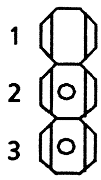
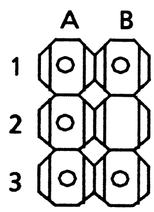
Connector	Contact	Signal, function, level
X64 		220 V / 220 V ± 5 %, max. 150 VA
X67 N type 		HF / 0.4 to 30 MHz, 0 to 1100 W_{CW} for 1.5 to 30 MHz, $Z = 50\ \Omega$

6.8.2 Interfaces of Amplifier Control A10

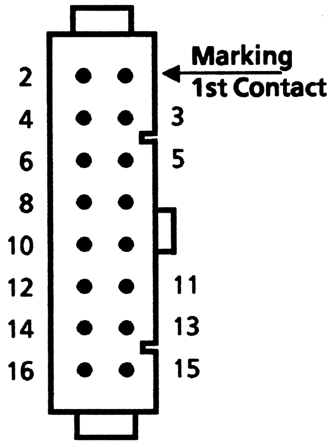
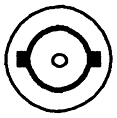
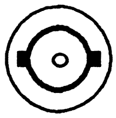
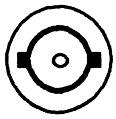
Connector	Contact	Signal, function, level
X1 Contact A15 removed because of coding	.A1	Carrier inhibit high = + 0.2 to + 5 V low = -0.2 to -5 V hysteresis = ± 0.2 V $\lvert$typ. I$\rvert \leq 1$ mA
	.A2	Transmit / 5.3 V CMOS
	.A3	Strobe 5 / 5.3 V CMOS
	.A4	not used
	.A5	+ 16 V / power supply / + 16 ± 0.5 V, I ≤ 250 mA
	.A6	-16 V / power supply / -16 ± 0.5 V, I ≤ 250 mA
	.A7	+ 5.3 V / power supply / + 5.3 ± 0.1 V, I ≤ 100 mA
	.A8	GND / 0 V, I ≤ 500 mA
	.A9	GND / 0 V, I ≤ 500 mA
	.A10	BITE preamplifier / 5.3 V CMOS, I ≤ 10 mA, $T_R = T_F \leq 1\ \mu s$
	.A11	BITE output stage 1 / 5.3 V CMOS, I ≤ 10 mA, $T_R = T_F \leq 1\ \mu s$, $T_H \geq 8$ ms (low)
	.A12	BITE output stage 2 / 5.3 V CMOS, I ≤ 10 mA, $T_R = T_F \leq 1\ \mu s$, $T_H \geq 8$ ms (low)
	.A13	not used
	.A14	BITE temperature / 5.3 V CMOS, I ≤ 10 mA, $T_R = T_F \leq 1\ \mu s$
	.A15	Coding

Connector	Contact	Signal, function, level
X1 	.B1	D0 / 5.3 V CMOS
	.B2	D1 / 5.3 V CMOS
	.B3	D2 / 5.3 V CMOS
	.B4	D3 / 5.3 V CMOS
	.B5	D4 / 5.3 V CMOS
	.B6	D5 / 5.3 V CMOS
	.B7	D6 / 5.3 V CMOS
	.B8	D7 / 5.3 V CMOS
	.B9	GND / 0 V, $I \leq 500$ mA
	.B10	CM HF / 5.3 V CMOS, $I \leq 10$ mA, $T_R = T_F \leq 1$ µs, $T_H \geq 8$ ms (low)
	.B11	CM VSWR / 5.3 V CMOS, $I \leq 10$ mA, $T_R = T_F \leq 1$ µs, $T_H \geq 8$ ms (low)
	.B12	CM amplifier / 5.3 V CMOS, $I \leq 10$ mA, $T_R = T_F \leq 1$ µs, $T_H \geq 8$ ms (low)
	.B13	not used
	.B14	not used
	.B15	not used
X12 	.1	V_{DS2} / 0 to +3 V, I = 0 to 300 µA
	.2	THC preamplifier / 0 to +3 V, I = 0 to 100 µA
	.3	10 dB / 5.3 V CMOS
	.4	V_{DS1} / 0 to +3 V, I = 0 to 300 µA
	.5	not used
	.6	AP preamplifier / 5.3 V CMOS
	.7	+28 V / power supply / +19 to +31 V, $I \leq 2.5$ A
	.8	+28 V / power supply / +19 to +31 V, $I \leq 2.5$ A
	.9	-16 V / power supply / -16 ±0.5 V
	.10	-16 V / power supply / -16 ±0.5 V
	.11	+16 V / power supply / +16 ±0.5 V
	.12	+16 V / power supply / +16 ±0.5 V
	.13	+5.3 V / power supply / +5.3 ±0.1 V
	.14	+5.3 V / power supply / +5.3 ±0.1 V
	.15	GND / 0 V
	.16	GND / 0 V

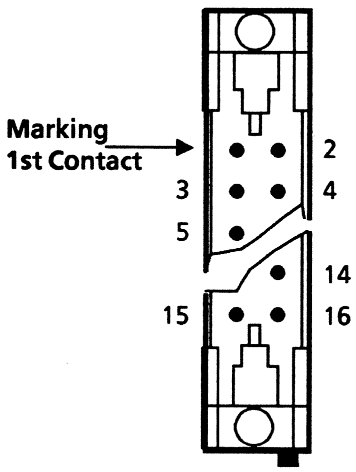
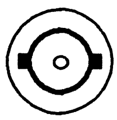
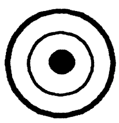
Connector	Contact	Signal, function, level
X13	.1	OP MOD1 / 5.3 V CMOS
	.2	V_{CE1} / 0 to + 5 V, I = 0 to 50 µA
	.3	TK1 / + 0.7 to + 1.7 V, I = 0.4 to 0.7 mA
	.4	I 1 / 0 to + 3.5 V, I = 0 to 0.6 mA
	.5	V_{OP1} / 0 to + 5 V, I = 0 to 0.2 mA
	.6	not used
	.7	Failure 1 / low = 0 to 1 V, high = + 3 to + 5.4 V
	.8	not used
	.9	-16 V / power supply / -16 ± 0.5 V
	.10	-16 V / power supply / -16 ± 0.5 V
	.11	+ 16 V / power supply / + 16 ± 0.5 V
	.12	+ 16 V / power supply / + 16 ± 0.5 V
	.13	+ 5.3 V / power supply / + 5.3 ± 0.1 V
	.14	+ 5.3 V / power supply / + 5.3 ± 0.1 V
	.15	GND / 0 V
	.16	GND / 0 V
X14	.1	OP MOD2 / 5.3 V CMOS
	.2	V_{CE2} / 0 to + 5 V, I = 0 to 50 µA
	.3	TK2 / + 0.7 to + 1.7 V, I = 0.4 to 0.7 mA
	.4	I 2 / 0 to + 3.5 V, I = 0 to 0.6 mA
	.5	V_{OP2} / 0 to + 5 V, I = 0 to 0.2 mA
	.6	not used
	.7	Failure 2 / low = 0 to 1 V, high = + 3 to + 5.4 V
	.8	not used
	.9	-16 V / power supply / -16 ± 0.5 V
	.10	-16 V / power supply / -16 ± 0.5 V
	.11	+ 16 V / power supply / + 16 ± 0.5 V
	.12	+ 16 V / power supply / + 16 ± 0.5 V
	.13	+ 5.3 V / power supply / + 5.3 ± 0.1 V
	.14	+ 5.3 V / power supply / + 5.3 ± 0.1 V
	.15	GND / 0 V
	.16	GND / 0 V

Connector	Contact	Signal, function, level
X17 Contact B3 removed because of coding 	.A1 .A2 .A3 .A4 .A5 .A6 .A7 .A8 .A9 .A10 .B1 .B2 .B3 .B4 .B5 .B6 .B7 .B8 .B9 .B10	Reflected / 0 to + 5 V, I = 0 to 5 mA Overtemperature / 5.3 V CMOS Forward / 0 to + 5 V, I = 0 to 5 mA Tx / Rx control / 5.3 V CMOS D0' / 5.3 V CMOS D2' / 5.3 V CMOS -16 V / power supply / -16 ± 0.5 V, I ≤ 50 mA + 16 V / power supply / + 16 ± 0.5 V, I ≤ 30 mA + 5.3 V / power supply / + 5.3 ± 0.1 V, I ≤ 40 mA GND / 0 V + 28 V / power supply / + 19 to + 31 V, I ≤ 2.4 mA + 28 V / power supply / + 19 to + 31 V, I ≤ 2.4 mA Coding PTT / 5.3 V CMOS D1' / 5.3 V CMOS PTT delayed / 5.3 V CMOS, T_H ≥ 10 s -16 V / power supply / -16 ± 0.5 V, I ≤ 50 mA + 16 V / power supply / + 16 ± 0.5 V, I ≤ 30 mA < 1.5 MHz / 5.3 V CMOS GND / 0 V
X18 Contact 1 removed because of coding 	.1 .2 .3	Coding ALC / -0.5 V to + 13 V, R_i = 100 to 200 Ω, T_R ≥ 50 µs, T_F ≥ 5 ms, I ≤ 25 mA GND / 0 V
X19 Contact B2 removed because of coding 	.A1 .A2 .A3 .B1 .B2 .B3	Blower stage 2 / low = 0 to + 1 V, high = + 19 V to + 31 V + 28 V / power supply / + 19 to + 31 V, I ≤ 100 mA GND / 0 V Blower stage 1 / low = 0 to + 1 V, high = + 19 V to + 31 V Coding GND / 0 V

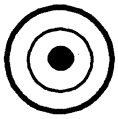
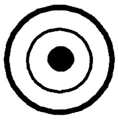
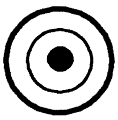
6.8.3 Interfaces of Amplifier A20

Connector	Contact	Signal, function, level
X12 	.1 .2 .3 .4 .5 .6 .7 .8 .9 .10 .11 .12 .13 .14 .15 .16	V_{DS2} / 0 to +3 V, I = 0 to 300 µA THC preamplifier / 0 to +3 V, I = 0 to 100 µA 10 dB / 5.3 V CMOS V_{DS1} / 0 to +3 V, I = 0 to 300 µA not used OP preamplifier / 5.3 V CMOS +28 V / power supply / +19 to +31 V, I ≤ 2.5 A +28 V / power supply / +19 to +31 V, I ≤ 2.5 A -16 V / power supply / -16 ±0.5 V -16 V / power supply / -16 ±0.5 V +16 V / power supply / +16 ±0.5 V +16 V / power supply / +16 ±0.5 V +5.3 V / power supply / +5.3 ±0.1 V +5.3 V / power supply / +5.3 ±0.1 V GND / 0 V GND / 0 V
X20 Soldered-in flat connector	.A .C	+28 V / power supply / +28 ±0.5 V, I ≤ 10.5 A GND / 0 V
X21 BNC type 		HF / S1 / 1.5 to 30 MHz, Z = 50 Ω, VSWR ≤ 1.6, +3 to +13 dBm
X32 BNC type (25 Ω) 		HF output 1 / 1.5 to 30 MHz, Z = 25 Ω, P ≤ 14 W
X42 BNC type (25 Ω) 		HF output 2 / 1.5 to 30 MHz, Z = 25 Ω, P ≤ 14 W

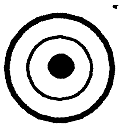
6.8.4 Interfaces of 500-W Output Stages A30 and A40

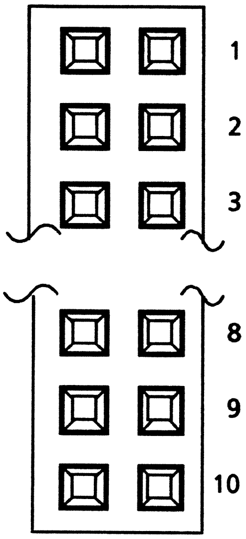
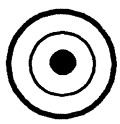
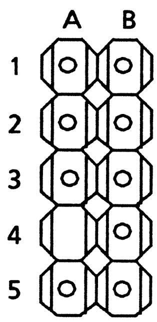
Connector	Contact	Signal, function, level
X30 Soldered-in flat connector	.A .C	40 / 50 V / 45 to 52 V, I ≤ 15.5 A, V_{output} = V_{nom} ± 0.5 V GND / 0 V
X31 	.1 .2 .3 .4 .5 .6 .7 .8 .9 .10 .11 .12 .13 .14 .15 .16	OP MOD / 5.3 V CMOS V_{CE} / 0 to + 5 V, I = 0 to 50 µA TK / + 0.7 to + 1.7 V, I = 0.4 to 0.7 mA I / 0 to + 3.5 V, I = 0 to 0.6 mA V_{OP} / 0 to + 5 V, I = 0 to 0.2 mA not used Failure / low = 0 to 1 V, high = + 3 to + 5.4 V not used -16 V / power supply / -16 ± 0.5 V -16 V / power supply / -16 ± 0.5 V + 16 V / power supply / + 16 ± 0.5 V + 16 V / power supply / + 16 ± 0.5 V + 5.3 V / power supply / + 5.3 ± 0.1 V + 5.3 V / power supply / + 5.3 ± 0.1 V GND / 0 V GND / 0 V
X32 BNC type 	.A	HF input / 1.5 to 30 MHz, Z = 25 Ω, P ≤ 14 W
X33 Soldered-in flat connector	.A .C	40 / 50 V / 45 to 52 V, I ≤ 15.5 A, V_{output} = V_{nom} ± 0.5 V GND / 0 V
X35 N type 		HF output / 1.5 to 30 MHz, Z = 25 Ω, P ≤ 600 W

6.8.5 Interfaces of Combiner A50

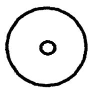
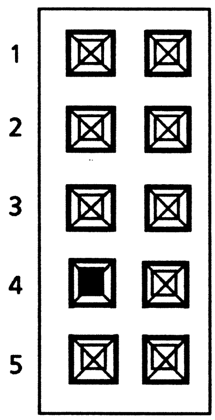
Connector	Contact	Signal, function, level
X53 N type 		HF input 1 / 1.5 to 30 MHz, Z = 25 Ω, P ≤ 600 W
X54 N type 		HF input 2 / 1.5 to 30 MHz, Z = 25 Ω, P ≤ 600 W
X75 N type 		HF output / 1.5 to 30 MHz, Z = 50 Ω, P ≤ 1100 W_{CW}

6.8.6 Interfaces of Harmonic Filter A70

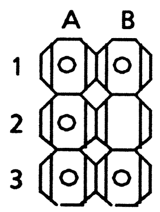
Connector	Contact	Signal, function, level
X67 N type 		HF output / 1.5 to 30 MHz, Z = 50 Ω, P ≤ 1100 W_{CW}

Connector	Kontakt	Signal, function, level
X17 Coding insert in socket B3 	.A1	Reflected / 0 to +5 V, I = 0 to 5 mA
	.A2	Overtemperature / 5.3 V CMOS
	.A3	Forward / 0 to +5 V, I = 0 to 5 mA
	.A4	Tx / Rx control / 5.3 V CMOS
	.A5	D0' / 5.3 V CMOS
	.A6	D2' / 5.3 V CMOS
	.A7	-16 V / power supply / -16 ± 0.5 V, I ≤ 50 mA
	.A8	+16 V / power supply / +16 ± 0.5 V, I ≤ 30 mA
	.A9	+5.3 V / power supply / +5.3 ± 0.1 V, I ≤ 40 mA
	.A10	GND / 0 V
	.B1	+28 V / power supply / +19 to +31 V, I ≤ 2.4 A
	.B2	+28 V / power supply / +19 to +31 V, I ≤ 2.4 A
	.B3	Coding
	.B4	PTT / 5.3 V CMOS
	.B5	D1' / 5.3 V CMOS
	.B6	PTT delayed / 5.3 V CMOS, $T_H \geq 10$ s
	.B7	-16 V / power supply / -16 ± 0.5 V, I ≤ 50 mA
	.B8	+16 V / power supply / +16 ± 0.5 V, I ≤ 30 mA
	.B9	< 1.5 MHz / 5.3 V CMOS
	.B10	GND / 0 V
X75 N type 		HF input / 1.5 to 30 MHz, Z = 50 Ω, P ≤ 1100 W_{CW}
X782 Contact A4 removed because of coding 	.A1	< 1.5 MHz / 5.3 V CMOS
	.A2	PTT / 5.3 V CMOS
	.A3	+16 V / power supply / +16 ± 0.5 V, I ≤ 30 mA
	.A4	Coding
	.A5	-16 V / power supply / -16 ± 0.5 V, I ≤ 50 mA
	.B1	+28 V / power supply / +19 to +31 V, I ≤ 2.4 A
	.B2	+5.3 V / power supply / +5.3 ± 0.1 V, I ≤ 40 mA
	.B3	Tx / Rx control / 5.3 V CMOS
	.B4	not used
	.B5	GND / 0 V

6.8.7 Interfaces of Option A80 (Tx / Rx Relay and Tx / Rx Reed Relay respectively or Tx / Rx PIN Diode Switch I and Tx / Rx PIN Diode Switch II respectively)

Connector	Contact	Signal, function, level
W5 or XSEN Cable terminals		HF input / 1.5 to 30 MHz, Z = 50 Ω, P ≤ 1100 W_{CW}
X67 or XANT Screw connection for cable terminals		HF output / 0.4 to 30 MHz, Z = 50 Ω, P ≤ 1100 W_{CW} for 1.5 to 30 MHz
X81 SMA type 		HF reception / 0.4 to 30 MHz, Z = 50 Ω
X782 (W10) in socket A4 coding insertion 	.A1	< 1.5 MHz / 5.3 V CMOS
	.A2	PTT / 5.3 V CMOS
	.A3	+ 16 V / power supply / + 16 ± 0.5 V, I ≤ 30 mA
	.A4	Coding
	.A5	-16 V / power supply / -16 ± 0.5 V, I ≤ 50 mA
	.B1	+ 28 V / power supply / + 19 to + 31 V, I = 25 mA to 200 mA
	.B2	+ 5.3 V / power supply / + 5.3 ± 0.1 V, I ≤ 40 mA
	.B3	Tx / Rx control / 5.3 V CMOS
	.B4	not used
	.B5	GND / 0 V

6.8.8 Interfaces of Blower Control Unit (I or II) A90

Connector	Contact	Signal, function, level
X2	.1 .2 .3	L1 / 1 exciter winding of blower 1 L1 / 2 exciter winding of blower 1 L1 / 3 exciter winding of blower 1
X3	.1 .2 .3	L2 / 1 exciter winding of blower 2 L2 / 2 exciter winding of blower 2 L2 / 3 exciter winding of blower 2
X4	.1 .2	220 V / power supply / 187 to 250 V, I ≤ 1 A, 47 to 63 Hz 220 V / power supply / 187 to 250 V, I ≤ 1 A, 47 to 63 Hz
X91 Contact B2 removed because of coding 	.A1 .A2 .A3 .B1 .B2 .B3	Blower stage 2 / low = 0 to + 1 V, high = + 19 V to + 31 V + 28 V / power supply / + 19 to + 31 V, I ≤ 100 mA GND / 0 V Blower stage 1 / low = 0 to + 1 V, high = + 19 V to + 31 V Coding GND / 0 V

ROHDE & SCHWARZ

Communications Division

Appendix

CIRCUIT DIAGRAMS
PARTS LISTS
COMPONENTS LAYOUTS

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = RAL7035 LICHTGRAU MOD 02 = RAL7035 LIGHTGREY VAR 03 = RAL6104 OLIV MOD 03 = RAL6014 OLIV DRAB VAR 04 = RAL7001 MAR.GRAU MOD 04 = RAL7001 MAR.GREY MIT S/E REED RELAIS WITH T/R REED RELAY ************************** VAR 05 = RAL7035 LICHTGRAU MOD 05 = RAL7035 LIGHTGREY VAR 07 = RAL7001 MAR.GRAU MOD 07 = RAL7001 MAR.GREY MIT ISB WITH ISB OHNE S/E REED RELAIS WITHOUT T/R REED RELAY ************************** VAR 12 = RAL7035 LICHTGRAU MOD 12 = RAL7035 LIGHTGREY VAR 13 = RAL6014 OLIV MOD 13 = RAL6014 OLIV DRAB VAR 14 = RAL7001 MAR.GRAU MOD 14 = RAL7001 MAR.GREY OHNE S/E REEDRELAIS WITHOUT T/R REED REELAY ************************** VAR 22 = RAL7035 LICHTGRAU MOD 22 = RAL7035 LIGHTGREY VAR 23 = RAL6014 OLIV MOD 23 = RAL6014 OLIV DRAB VAR 24 = RAL7001 MAR.GRAU MOD 24 = RAL7001 MAR.GREY MIT S/E PINDIODEN SCHALTER WITH T/R PIN DIODE SWITCH **************************				
A10	ED VERSTAERKERSTEUERUNG AMPLIFIER CONTROL NUR VAR/ONLY MOD: 02 03 04 12 13 14 22 23 24	680.7019.02			
A10	ED VERSTAERKERSTEUERUNG AMPLIFIER CONTROL NUR VAR/ONLY MOD: 05 07	680.7019.05			
A20	ZE VORVERSTAERKER PREAMPLIFIER NUR VAR/ONLY MOD: 07	625.7710.02			680.8267.01
A20	ZE VORVERSTAERKER PREAMPLIFIER NUR VAR/ONLY MOD: 02 03,04,05,12,13,14,22,23,24	680.8015.02			680.8267.01
A30	ZE 500W ENDSTUFE 500W FINAL STAGE	680.6112.02			
A40	ZE 500W ENDSTUFE 500W FINAL STAGE	680.6112.02			
A50	ZE COMBINER COMBINER	680.6764.02			680.8267.01
A70	ZE OBERWELLENFILTER HARMONICS FILTER NUR VAR/ONLY MOD: 02 03 04 05 07 12 13 14	680.7260.02			
A70	ZE OBERWELLENFILTER NUR VAR/ONLY MOD: 22 23 24	680.7260.03			
A80	ED S/E REEDRELAIS T/R REED RELAY NUR VAR/ONLY MOD: 02 03 04	718.0321.02			
A80	ED S/E PINDIODENSCHALTER T/R DIODE SWITCH NUR VAR/ONLY MOD: 22 23 24	625.8017.03			

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
A90	ED LUEFTERSTEUERUNG BLOWER CONTROL UNIT	680.9292.02			680.8267.01
E1	ZM RADIALGEBLAESE BLOWER	680.8667			680.8267.01
E2	ZM RADIALGEBLAESE BLOWER	680.8667			680.8267.01
F1	SS SCHMELZS.T2 IEC127-2/V FUSE	SS 020.7546	WICKMANN	T2 NR.19181	680.8467.01
W1	DW HF-KABEL 25 OHM RF CABLE 25 OHM	680.8315			
W2	DW HF-KABEL 25 OHM RF CABLE 25 OHM	680.8309			
W6	DV HF-KABEL EMPF.	680.8296			680.8467.01
W7	DY FLACHBANDLEITUNG	680.8350			
W8	DY FLACHBANDLEITUNG RIBBON CABLE	680.8367			680.8467.01
W11	DX LEITUNG 220V CABLE 220V	680.8450			680.8467.01
W12	DV HF-KABEL SENDEN RF CABLE TRANSMIT	680.8344			680.8467.01
W13	DV KABEL ALC CABLE	680.8409			680.8467.01
W19	DX HF-KABEL 25 OHM RD CABLE 25 OHM	680.8380			680.8467.01
W20	DH KABEL 25 OHM M.2XBNC-S CABLE WITH 2XBNC NUR VAR/ONLY MOD: 07	625.7910	ELSPEC	R&S-ZCHNG. 625.7910	680.8267.01
W21	DH KABEL 25 OHM M.2XBNC-S CABLE WITH 2XBNC NUR VAR/ONLY MOD: 07	625.7910	ELSPEC	R&S-ZCHNG. 625.7910	680.8267.01
X1	BESTEHT AUS/CONSISTING OF 1X FP458.0171 1X PF603.0136 30X FP458.0194 1X FP418.0041				680.8396
X4	BESTEHT AUS/CONSISTING OF 1X 681.1189 2X FP343.4946				680.8450
X13	FP BUCHSENLEISTE 16POL. CONNECTOR 16POL.	FP 645.6778	PANDUIT	050A-016-435A	680.8350
X14	FP BUCHSENLEISTE 16POL. CONNECTOR 16POL.	FP 645.6778	PANDUIT	050A-016-435A	680.8367
X18	BESTEHT AUS/CONSISTING OF 1X FP528.6914 2X FP458.0194 1X FP418.0041				680.8409
X19	BESTEHT AUS/CONSISTING OF 1X FP566.1316 5X FP458.0194 1X PF418.0041				680.8373
X20	BESTEHT AUS/CONSISTING OF 1X 544.9320 2X 007.4482				680.8415
X21	FJ KABELSTECKER SYST.BNC BNC CONNECTOR	FJ 272.5930	SUHNER	11BNC-50-2-14C	680.8344
X30	BESTEHT AUS/CONSISTING OF 1X 680.9986 2X 007.4482				680.8415
X31	FP BUCHSENLEISTE 16POL. CONNECTOR 16POL.	FP 645.6778	PANDUIT	050A-016-435A	680.8350
X33	BESTEHT AUS/CONSISTING OF 1X 680.9986 2X 007.4482				680.8415
X35	FJ KABELST.SYST.N 25 OHM CONNECTOR	680.9605	ROSENBERGE	53 S 105-299A2	680.8315
X40	BESTEHT AUS/CONSISTING OF 1X 680.9986 2X 007.4482				680.8415
X41	FP BUCHSENLEISTE 16POL. CONNECTOR 16POL.	FP 645.6778	PANDUIT	050A-016-435A	680.8367
X43	BESTEHT AUS/CONSISTING OF 1X 680.9986 2X 007.4482				680.8415

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
X45	FJ KABELST.SYST.N 25 OHM CONNECTOR	680.9605	ROSENBERGE	53 S 105-299A2	680.8309
X53	FJ KABELST.SYST.N 25 OHM CONNECTOR	680.9605	ROSENBERGE	53 S 105-299A2	680.8380
X54	FJ KABELST.SYST.N 25 OHM CONNECTOR	680.9605	ROSENBERGE	53 S 105-299A2	680.8309
X61	BESTEHT AUS/CONSISTING OF 1X 552.1090 30X 552.1102				680.8396
X64	FN GERAETEST. 2POL.+SCHU. RECEPTACLE	FN 092.3930	KLAR&BEILS	42R02.3222 20	680.8467.01
X81	FJ KABELSTECKER SYST. SMA CONNECTOR	FJ 249.7598	SUHNER	11SMA-50-2-6C	680.8296
X91	BESTEHT AUS/CONSISTING OF 1X FP566.1316 5X FP458.0194 1X FP418.0041				680.8373
X351	FJ KABELST.SYST.N 25 OHM CONNECTOR	680.9605	ROSENBERGE	53 S 105-299A2	680.8315
X352	FJ EINBAUBUCHSE SYST.N CONNECTOR	FJ 395.1377	SUHNER	23N-50-0-1/133	680.8467.01
X620	FJ LEISTE F. BNC-BUCHSEN BNC CONNECTOR STRIP	FJ 017.6765			680.8467.01
X630	BESTEHT AUS/CONSISTING OF 1X 545.1217 5X 545.1223				680.8467.01
X620.2	FJ BUCHSE F.LEISTE BNC BNC SOCKET,50 OHM	FJ 017.6788	SPINNER	BN 474342	680.8467.01
X620.3	FJ BUCHSE F.LEISTE BNC BNC SOCKET,50 OHM	FJ 017.6788	SPINNER	BN 474342	680.8467.01
X620.4	FJ BUCHSE F.LEISTE BNC BNC SOCKET,50 OHM	FJ 017.6788	SPINNER	BN 474342	680.8467.01
					- ENDE -

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL VAR 05 = LINK 11 AUSFUEHR. MOD 05 = LINK 11 MODEL				
..	ZUGEH.STROML./CIRC.DIAGR. 680.7019.01 S				
A10.1	ED ISB-NACHRUESTUNG ISB SUPPLEMENT NUR VAR/ONLY MOD: 05	0718.0467.02			
C1	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C2	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C3	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C4	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C5	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C6	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C7	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C8	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C9	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C10	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C11	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C12	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C13	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C14	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C15	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C16	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C17	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C18	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C19	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C20	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C21	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C22	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C23	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C24 ..27	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C28	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C29	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C30	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C31	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C32	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C34	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C35	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C36	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C37	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	

2KCW	Äl	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt-Nr. Page
ROHDE&SCHWARZ	32	30.11.93	ED VERSTAERKERSTEUERUNG AMPLIFIER CONTROL	**0680.7019.01 SA**	1+

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C38	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C39	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C40	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C41	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C42	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C43	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C44	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C50	CE 10 UF+-20%25V 7X 5X11 ELECTROLYTIC CAPACITOR	CE 0023.5980.00	ROEDERSTEI	ETR 3 10/25 20%	
C51	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C52	CC 100PF+-10%200V5K1200VI CAPACITOR	CC 0084.5250.00	UNION CARB	CK05BX101K	
C60	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C61	CC 100PF+-10%200V5K1200VI CAPACITOR	CC 0084.5250.00	UNION CARB	CK05BX101K	
C62	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C73	CK 47NF+-5%63V RD2,5H7MKT CAPACITOR NUR VAR/ONLY MOD: 02	CK 0099.2917.00	WIMA		
C73	CK 220NF+-5%63VRD3,5H9MKT CAPACITOR NUR VAR/ONLY MOD: 05	CK 0099.2952.00	WIMA		
C74	CK 47NF+-5%63V RD2,5H7MKT CAPACITOR NUR VAR/ONLY MOD: 02	CK 0099.2917.00	WIMA		
C74	CK 220NF+-5%63VRD3,5H9MKT CAPACITOR NUR VAR/ONLY MOD: 05	CK 0099.2952.00	WIMA		
C80	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C81	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C82	CC 47NF+-10%50V5K1200VIEL CAPACITOR	CC 0082.7810.00	UNION CARB	CK05BX473K	
C83	CC 47NF+-10%50V5K1200VIEL CAPACITOR	CC 0082.7810.00	UNION CARB	CK05BX473K	
C84	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C85	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 0068.4060.00	UNION CARB	CK05BX103K	
C86	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 0068.4060.00	UNION CARB	CK05BX103K	
C87	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C88	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C89	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C90	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 0068.4060.00	UNION CARB	CK05BX103K	
C91	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C92	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C100	TRIMMWERT / SELECTED				
C101	TRIMMWERT / SELECTED				
C103	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 0068.4060.00	UNION CARB	CK05BX103K	
C104	CC 220NF+-10%50V7K1200VIE CERAMIC CAPACITOR	0084.5515.00	UNION CARB	CK06BX224K	
C105	CC 2,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	CC 0067.9022.00	UNION CARB	CK05BX222K	
C106	CC 680PF+-10%200V5K1200VI CAPACITOR	CC 0060.2368.00	UNION CARB	CK05BX681K	
C107	CK 4,7UF+-10%63V 27X9X17 FOILCAPACITOR	0680.9640.00	ROEDERSTEI	MKT1822 547 06 5 G	
C108	CE 10 UF+-20%25V 7X 5X11 ELECTROLYTIC CAPACITOR	CE 0023.5980.00	ROEDERSTEI	ETR 3 10/25 20%	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C109	CC 1UF+-10%50V7K1200VIEL CAPACITOR	0084.5538.00	UNION CARB	CK06BX105K	
C200	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C201	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C202 ..204	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C205	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C206	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C207	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C208 ..214	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C215	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C216 ..227	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C228	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C230 ..234	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C235	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C236	CC 100PF+-2%6X9NPO CAPACITOR	CC 0087.6541.00	PHILIPS-CO	2222 678 10101	
C300 ..303	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C304	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C305	CE 4,7UF+-20%20V 7X 4X 8 ELECTROLYTIC CAPACITOR	CE 0022.8110.00	ROEDERSTEI	ETR 2 4,7/20 20%	
C308	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C309	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
D1	BL CD4081BF 4X2INP.ANDG AND GATE	0531.0259.00	RCA	CD4081BF	
D2	BL MC14073BAL 3X3IN. ANDG AND GATE	0418.0141.00	RCA	CD4073BF	
D3	BL MC14538BAL 2X MONOFLOP MONOSTABLE MULTIVIBRATOR	0526.5427.00	MOTOROLA	MC14538BAL	
D5	BL CD4069UBF 6XINVERTER HEXINVERTER	0514.4589.00	RCA	CD4069UBF	
D6	BL MC14071BAL 4X2IN. ORG OR GATE	0418.0158.00	MOTOROLA	MC14071BAL	
D7	BL CD4081BF 4X2INP.ANDG AND GATE	0531.0259.00	RCA	CD4081BF	
D9	BL MC14066BAL 4X ANALOGSW ANALOG SWITCH	0418.0135.00	MOTOROLA	MC14066BAL	
D10	BL MC14538BAL 2X MONOFLOP MONOSTABLE MULTIVIBRATOR	0526.5427.00	MOTOROLA	MC14538BAL	
D11	BL CD4081BF 4X2INP.ANDG AND GATE	0531.0259.00	RCA	CD4081BF	
D12	BL MC14538BAL 2X MONOFLOP MONOSTABLE MULTIVIBRATOR	0526.5427.00	MOTOROLA	MC14538BAL	
D13	BL CD4081BF 4X2INP.ANDG AND GATE	0531.0259.00	RCA	CD4081BF	
D14	BL MM54C902J 6XTTL BUFF TTL BUFFER	0418.0287.00	NSC	MM54C902J	
D15	BL MC14538BAL 2X MONOFLOP MONOSTABLE MULTIVIBRATOR	0526.5427.00	MOTOROLA	MC14538BAL	
D16	BL CD4013BF 2XD FLIPFL FLIPFLOP	0086.8034.00	RCA	CD4013BF	
D17	BL SCL4028BC BCD/DEC.DEC BCD/DECADE DECODER	0290.1178.00	MOTOROLA	MC14028BAL	
D18	BL SCL4028BC BCD/DEC.DEC BCD/DECADE DECODER	0290.1178.00	MOTOROLA	MC14028BAL	
D19	BL CD4001BF 4X2INP.NORG NOR GATE	0086.6990.00	RCA	CD4001BF	
L23	LD 100 UH10%8,000HMO,084A CHOKE	LD 0067.3101.00	DELEVAN	DROSSEL1025-68	
L28 ..31	LD 100 UH10%8,000HMO,084A CHOKE	LD 0067.3101.00	DELEVAN	DROSSEL1025-68	

2KCW	Äl	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt-Nr. Page
ROHDE&SCHWARZ	32	30.11.93	ED VERSTAERKERSTEUERUNG AMPLIFIER CONTROL	0680.7019.01 SA	3+

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
L39 ..44	LD 100 UH10%8,000HMO,084A CHOKE	LD 0067.3101.00	DELEVAN	DROSSEL1025-68	
N1	BO UA723DM ADJOA1 VREGL VOLTAGE REGULATOR	0283.9425.00	RAYTHEON	RM-723D	
N2	BO LM139J 4X COMPAR COMPARATOR	BO 0455.2873.00	NAT. SEMIC	LM139J	
N3	BO LM139J 4X COMPAR COMPARATOR	BO 0455.2873.00	NAT. SEMIC	LM139J	
N4	BO LM139J 4X COMPAR COMPARATOR	BO 0455.2873.00	NAT. SEMIC	LM139J	
N5 ..9	BO TL074IN LN 4XFET OPAMP OPERATIONAL AMPLIFIER	0568.7528.00	TEXAS INST	TL074IN	
N10	BO TL074IN LN 4XFET OPAMP OPERATIONAL AMPLIFIER	0568.7528.00	TEXAS INST	TL074IN	
R1 ..6	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R10	RL 0-OHM-WIDERST. 0204 0-OHM RESISTOR	RL 0069.0000.00	DRALORIC	OMA 0204	
R12	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R13	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R14	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R15	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 05 NICHT BESTUECKT/NOT FITTED	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R15	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 02	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R30	RL 0,60W 20,0KOHM+-1%TK50 RESISTOR	RL 0083.1522.00	DRALORIC	SMA/207/20K-F-C	
R31	RL 0,60W 4,32KOHM+-1%TK50 RESISTOR	RL 0082.6572.00	DRALORIC	SMA0207/4,32K-F-D	
R32	RL 0,60W 11,0KOHM+-1%TK50 RESISTOR	RL 0083.1322.00	DRALORIC	SMA0207/11K-F-D	
R33	RL 0,60W 20,0KOHM+-1%TK50 RESISTOR	RL 0083.1522.00	DRALORIC	SMA/207/20K-F-C	
R34	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R35	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R40	RL 0,60W 39,2KOHM+-1%TK50 RESISTOR	RL 0083.1745.00	DRALORIC	SMA/207/39,2K-F-C	
R41	RL 0,60W 82,5KOHM+-1%TK50 RESISTOR	RL 0082.2302.00	DRALORIC	SMA0207/82,5K-F-C	
R42	RL 0,60W 82,5KOHM+-1%TK50 RESISTOR	RL 0082.2302.00	DRALORIC	SMA0207/82,5K-F-C	
R43	RL 0,60W 33,2KOHM+-1%TK50 RESISTOR	RL 0083.1674.00	DRALORIC	SMA0207/33,2K-F-C	
R44	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R45	RL 0,60W 15,0KOHM+-1%TK50 RESISTOR	RL 0083.1400.00	DRALORIC	SMA0207/15K-F-D	
R46	RS 0,3W 5KOHM+-10%CERMET CERMET POTENTIOMETER	RS 0086.7938.00	BOURNS	3292X-1-502	
R50	RL 0,60W 39,2KOHM+-1%TK50 RESISTOR	RL 0083.1745.00	DRALORIC	SMA/207/39,2K-F-C	
R51	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R52	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R53	RL 0,60W 33,2KOHM+-1%TK50 RESISTOR	RL 0083.1674.00	DRALORIC	SMA0207/33,2K-F-C	
R54	RL 0,60W 475 OHM+-1%TK50 RESISTOR	RL 0083.0390.00	DRALORIC	SMA0207/475OHM-F-D	
R55	RL 0,60W 30,1KOHM+-1%TK50 RESISTOR	RL 0083.1639.00	DRALORIC	SMA0207/30,1K-F-C	
R56	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R57	RL 0,60W 1MOHM+-1%TK50 RESISTOR	RL 0082.7862.00	DRALORIC	SMA0207/1M-F-D	
R58	RL 0,60W 200KOHM+-1%TK50 RESISTOR	RL 0083.2235.00	DRALORIC	SMA0207/200K-F-D	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R60	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R61	RL 0,60W 332 KOHM+-1%TK50 RESISTOR	RL 0083.2441.00	DRALORIC	SMA0207/332K-F-C	
R66	RL 0,60W 10,0 OHM+-1%TK50 RESISTOR	RL 0082.8852.00	DRALORIC	SMA0207/10OHM-F-D	
R67	RL 0,60W 1,1KOHM+-1%TK50 RESISTOR	RL 0082.2483.00	DRALORIC	SMA 0207/1,10K-F-C	
R68	RL 0,60W 1,50KOHM+-1%TK50 RESISTOR	RL 0083.0732.00	DRALORIC	SMA0207/1,50K-F-D	
R69	RS 0,3W 5KOHM+-10%CERMET TRIMMING POTENTIOMETER	RS 0006.6698.00	BOURNS	3296W-1- 5KOHM+-10%	
R70	RL 0,60W 3,01KOHM+-1%TK50 RESISTOR	RL 0083.0961.00	DRALORIC	SMA0207/3,01K-F-D	
R71	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R72	RL 0,60W 1MOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 02	RL 0082.7862.00	DRALORIC	SMA0207/1M-F-D	
R72	RL 0,60W 825 OHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 05	RL 0082.2502.00	DRALORIC	SMA 0207/825OHM-F-C	
R73	RL 0,60W 33,2KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 02	RL 0083.1674.00	DRALORIC	SMA0207/33,2K-F-C	
R73	RL 0,60W 6,81KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 05	RL 0082.2560.00	DRALORIC	SMA 0207/6,81K-F-C	
R74	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 02	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R74	RL 0,60W 12,1KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 05	RL 0083.1351.00	DRALORIC	SMA0207/12,1K-F-D	
R75	RL 0,60W 33,2KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 02	RL 0083.1674.00	DRALORIC	SMA0207/33,2K-F-C	
R75	RL 0,60W 4,32KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 05	RL 0082.6572.00	DRALORIC	SMA0207/4,32K-F-D	
R76	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R81	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R82	RL 0,60W 274 KOHM+-1%TK50 RESISTOR	RL 0083.2364.00	DRALORIC	SMA/207/274K-F-C	
R83	RL 0,60W 200KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 02	RL 0083.2235.00	DRALORIC	SMA0207/200K-F-D	
R83	RL 0,60W 130 KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 05	RL 0083.2093.00	DRALORIC	SMA0207/130K-F-C	
R84	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R85	RL 0,60W 221 KOHM+-1%TK50 RESISTOR	RL 0083.2270.00	DRALORIC	SMA0207/221K-F-C	
R86	RL 0,60W 221 KOHM+-1%TK50 RESISTOR	RL 0083.2270.00	DRALORIC	SMA0207/221K-F-C	
R91	RL 0,60W 6,81KOHM+-1%TK50 RESISTOR	RL 0082.2560.00	DRALORIC	SMA 0207/6,81K-F-C	
R92	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R93	RL 0,60W 8,25KOHM+-1%TK50 RESISTOR	RL 0083.1239.00	DRALORIC	SMA0207/8,25K-F-D	
R94	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R101	RL 0,60W 8,25KOHM+-1%TK50 RESISTOR	RL 0083.1239.00	DRALORIC	SMA0207/8,25K-F-D	
R102	RL 0,60W 15,0KOHM+-1%TK50 RESISTOR	RL 0083.1400.00	DRALORIC	SMA0207/15K-F-D	
R103	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R104	RL 0,60W 1MOHM+-1%TK50 RESISTOR	RL 0082.7862.00	DRALORIC	SMA0207/1M-F-D	
R105	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R106	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R107	RL 0,60W 27,4KOHM+-1%TK50 RESISTOR	RL 0082.2583.00	DRALORIC	SMA 0207/27,4K-F-C	
R108	RL 0,60W 20,0KOHM+-1%TK50 RESISTOR	RL 0083.1522.00	DRALORIC	SMA/207/20K-F-C	
R109	RL 0,60W 825 KOHM+-1%TK50 RESISTOR	RL 0083.2812.00	DRALORIC	SMA0207/825K-F-C	
R110	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R111	RL 0,60W 22,1KOHM+-1%TK50 RESISTOR	RL 0083.1545.00	DRALORIC	SMA/207/22,1K-F-C	
R112	RL 0,60W 22,1KOHM+-1%TK50 RESISTOR	RL 0083.1545.00	DRALORIC	SMA/207/22,1K-F-C	
R120	RL 0,60W 39,2KOHM+-1%TK50 RESISTOR	RL 0083.1745.00	DRALORIC	SMA/207/39,2K-F-C	
R121	RL 0,60W 51,1KOHM+-1%TK50 RESISTOR	RL 0083.1822.00	DRALORIC	SMA/207/51,1K-F-C	
R122	RL 0,60W 30,1KOHM+-1%TK50 RESISTOR	RL 0083.1639.00	DRALORIC	SMA0207/30,1K-F-C	
R123	RL 0,60W 7,50KOHM+-1%TK50 RESISTOR	RL 0083.1197.00	DRALORIC	SMA0207/7,5K-F-D	
R124	RL 0,60W 5,11KOHM+-1%TK50 RESISTOR	RL 0082.2348.00	DRALORIC	SMA0207/5,11K-F-C	
R125	RL 0,60W 13,0KOHM+-1%TK50 RESISTOR	RL 0083.1368.00	DRALORIC	SMA0207/13,0K-F-D	
R130	RL 0,60W 30,1KOHM+-1%TK50 RESISTOR	RL 0083.1639.00	DRALORIC	SMA0207/30,1K-F-C	
R131	RL 0,60W 51,1KOHM+-1%TK50 RESISTOR	RL 0083.1822.00	DRALORIC	SMA/207/51,1K-F-C	
R132	RL 0,60W 13,0KOHM+-1%TK50 RESISTOR	RL 0083.1368.00	DRALORIC	SMA0207/13,0K-F-D	
R133	RL 0,60W 7,50KOHM+-1%TK50 RESISTOR	RL 0083.1197.00	DRALORIC	SMA0207/7,5K-F-D	
R134	RL 0,60W 5,11KOHM+-1%TK50 RESISTOR	RL 0082.2348.00	DRALORIC	SMA0207/5,11K-F-C	
R141	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R142	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R143	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R144	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R145	RL 0,60W 121KOHM+-1%TK50 RESISTOR	RL 0083.2070.00	DRALORIC	SMA/207/121K-F-C	
R146	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R147	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R161	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R162	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R163	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R164	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R166	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R167	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R171	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R172	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R173	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R174	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R175	RL 0,60W 3,32KOHM+-1%TK50 RESISTOR	RL 0083.0990.00	DRALORIC	SMA0207/3,32K-F-D	
R176	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R178	RL 0,60W 2,74KOHM+-1%TK50 RESISTOR	RL 0083.0926.00	DRALORIC	SMA0207/2,74K-F-D	
R180	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R181	RL 0,60W 13,0KOHM+-1%TK50 RESISTOR	RL 0083.1368.00	DRALORIC	SMA0207/13,0K-F-D	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R182	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R183	RL 0,60W 1MOHM+-1%TK50 RESISTOR	RL 0082.7862.00	DRALORIC	SMA0207/1M-F-D	
R184	RL 0,60W 1MOHM+-1%TK50 RESISTOR	RL 0082.7862.00	DRALORIC	SMA0207/1M-F-D	
R185	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R186	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R200	RL 0,60W 16,2KOHM+-1%TK50 RESISTOR	RL 0083.1439.00	DRALORIC	SMA0207/16,2K-F-D	
R201	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R202	RL 0,60W 68,1KOHM+-1%TK50 RESISTOR	RL 0082.2602.00	DRALORIC	SMA 0207/68,1K-F-C	
R203	RL 0,60W 11,0KOHM+-1%TK50 RESISTOR	RL 0083.1322.00	DRALORIC	SMA0207/11K-F-D	
R204	RL 0,60W 6,81KOHM+-1%TK50 RESISTOR	RL 0082.2560.00	DRALORIC	SMA 0207/6,81K-F-C	
R205	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R206	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R207	RL 0,60W 22,1KOHM+-1%TK50 RESISTOR	RL 0083.1545.00	DRALORIC	SMA/207/22,1K-F-C	
R208	RL 0,60W 37,4KOHM+-1%TK50 RESISTOR	RL 0083.1722.00	DRALORIC	SMA/207/37,4K-F-C	
R209	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R216	RL 0,60W 16,2KOHM+-1%TK50 RESISTOR	RL 0083.1439.00	DRALORIC	SMA0207/16,2K-F-D	
R217	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R218	RL 0,60W 68,1KOHM+-1%TK50 RESISTOR	RL 0082.2602.00	DRALORIC	SMA 0207/68,1K-F-C	
R219	RL 0,60W 11,0KOHM+-1%TK50 RESISTOR	RL 0083.1322.00	DRALORIC	SMA0207/11K-F-D	
R220	RL 0,60W 6,81KOHM+-1%TK50 RESISTOR	RL 0082.2560.00	DRALORIC	SMA 0207/6,81K-F-C	
R221	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R222	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R223	RL 0,60W 22,1KOHM+-1%TK50 RESISTOR	RL 0083.1545.00	DRALORIC	SMA/207/22,1K-F-C	
R224	RL 0,60W 37,4KOHM+-1%TK50 RESISTOR	RL 0083.1722.00	DRALORIC	SMA/207/37,4K-F-C	
R225	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R227	RL 0,60W 22,1KOHM+-1%TK50 RESISTOR	RL 0083.1545.00	DRALORIC	SMA/207/22,1K-F-C	
R228	RL 0,60W 56,2KOHM+-1%TK50 RESISTOR	RL 0082.2231.00	DRALORIC	SMA0207/56,2K-F-C	
R231	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R232	RL 0,60W 20,0KOHM+-1%TK50 RESISTOR	RL 0083.1522.00	DRALORIC	SMA/207/20K-F-C	
R233	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R234	RL 0,60W 6,81KOHM+-1%TK50 RESISTOR	RL 0082.2560.00	DRALORIC	SMA 0207/6,81K-F-C	
R235	RL 0,60W 68,1KOHM+-1%TK50 RESISTOR	RL 0082.2602.00	DRALORIC	SMA 0207/68,1K-F-C	
R236	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 02	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R236	RL 0,60W 8,25KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 05 NICHT BESTUECKT/NOT FITTED	RL 0083.1239.00	DRALORIC	SMA0207/8,25K-F-D	
R237	RL 0,60W 1,21KOHM+-1%TK50 RESISTOR	RL 0083.0655.00	DRALORIC	SMA0207/1,21K-F-D	
R238	RL 0,60W 18,2KOHM+-1%TK50 RESISTOR	RL 0083.1480.00	DRALORIC	SMA/207/18,2K-F-C	
R239	TRIMMWERT / SELECTED				
R239	RL 0,60W 9,09KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 05	RL 0082.2177.00	DRALORIC	SMA0207/9,09K-F-C	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R240	RL 0,60W 68,1KOHM+-1%TK50 RESISTOR	RL 0082.2602.00	DRALORIC	SMA 0207/68,1K-F-C	
R241	RL 0,60W 82,5KOHM+-1%TK50 RESISTOR	RL 0082.2302.00	DRALORIC	SMA0207/82,5K-F-C	
R242	RL 0,60W 200KOHM+-1%TK50 RESISTOR	RL 0083.2235.00	DRALORIC	SMA0207/200K-F-D	
R243	RL 0,60W 825 OHM+-1%TK50 RESISTOR	RL 0082.2502.00	DRALORIC	SMA 0207/825OHM-F-C	
R244	RL 0,60W 15,0KOHM+-1%TK50 RESISTOR	RL 0083.1400.00	DRALORIC	SMA0207/15K-F-D	
R245	RL 0,60W 22,1KOHM+-1%TK50 RESISTOR	RL 0083.1545.00	DRALORIC	SMA/207/22,1K-F-C	
R247	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R248	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 02	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R248	RL 0,60W 5,62KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 05	RL 0082.2190.00	DRALORIC	SMA0207/5,62K-F-C	
R252	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R253	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R254	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R257	RL 0,60W 6,81KOHM+-1%TK50 RESISTOR	RL 0082.2560.00	DRALORIC	SMA 0207/6,81K-F-C	
R258	RL 0,60W 200KOHM+-1%TK50 RESISTOR	RL 0083.2235.00	DRALORIC	SMA0207/200K-F-D	
R259	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R260	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R265	RL 0,60W 15,0KOHM+-1%TK50 RESISTOR	RL 0083.1400.00	DRALORIC	SMA0207/15K-F-D	
R266	RL 0,60W 2,74KOHM+-1%TK50 RESISTOR	RL 0083.0926.00	DRALORIC	SMA0207/2,74K-F-D	
R267	RL 0,60W 150 KOHM+-1%TK50 RESISTOR	RL 0083.2129.00	DRALORIC	SMA/207/150K-F-C	
R268	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R269	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R270	RL 0,60W 5,62KOHM+-1%TK50 RESISTOR	RL 0082.2190.00	DRALORIC	SMA0207/5,62K-F-C	
R271	RL 0,60W 51,1KOHM+-1%TK50 RESISTOR	RL 0083.1822.00	DRALORIC	SMA/207/51,1K-F-C	
R272	RL 0,60W 15,0KOHM+-1%TK50 RESISTOR	RL 0083.1400.00	DRALORIC	SMA0207/15K-F-D	
R273	RL 0,60W 392 KOHM+-1%TK50 RESISTOR	RL 0083.2512.00	DRALORIC	SMA0207/392K-F-C	
R274	RL 0,60W 15,0KOHM+-1%TK50 RESISTOR	RL 0083.1400.00	DRALORIC	SMA0207/15K-F-D	
R275	RL 0,60W 100 OHM+-1%TK50 RESISTOR	RL 0082.6543.00	DRALORIC	SMA0207/100/HM-F-D	
R276	RL 0,60W 200 OHM+-1%TK50 RESISTOR	RL 0083.0049.00	DRALORIC	SMA0207/200OHM-F-D	
R277	RL 0,60W 1MOHM+-1%TK50 RESISTOR	RL 0082.7862.00	DRALORIC	SMA0207/1M-F-D	
R278	RL 0,60W 5,62KOHM+-1%TK50 RESISTOR	RL 0082.2190.00	DRALORIC	SMA0207/5,62K-F-C	
R280	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R281	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R282	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R283	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R284	RL 0,60W 56,2KOHM+-1%TK50 RESISTOR	RL 0082.2231.00	DRALORIC	SMA0207/56,2K-F-C	
R285	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R286	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R287	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R288	RL 0,60W 47,5KOHM+-1%TK50 RESISTOR	RL 0083.1800.00	DRALORIC	SMA/207/47,5K-F-C	
R289	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R291	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R292	TRIMMWERT / SELECTED				
R292	RL 0,60W 5,11KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 05	RL 0082.2348.00	DRALORIC	SMA0207/5,11K-F-C	
R293	RL 0,60W 12,1KOHM+-1%TK50 RESISTOR	RL 0083.1351.00	DRALORIC	SMA0207/12,1K-F-D	
R294	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R295	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R296	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R297	RL 0,60W 27,4KOHM+-1%TK50 RESISTOR	RL 0082.2583.00	DRALORIC	SMA 0207/27,4K-F-C	
R298	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R299	RL 0,60W 274 KOHM+-1%TK50 RESISTOR	RL 0083.2364.00	DRALORIC	SMA/207/274K-F-C	
R300	RL 0,60W 150 KOHM+-1%TK50 RESISTOR	RL 0083.2129.00	DRALORIC	SMA/207/150K-F-C	
R301	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R302	RL 0,60W 4,75KOHM+-1%TK50 RESISTOR	RL 0083.1097.00	DRALORIC	SMA0207/4,75K-F-D	
R303	RL 0,60W 100KOHM+-1%TK50 RESISTOR	RL 0082.1764.00	DRALORIC	SMA0207/100K-F-C	
R304	RL 0,60W 56,2KOHM+-1%TK50 RESISTOR	RL 0082.2231.00	DRALORIC	SMA0207/56,2K-F-C	
R305	RL 0,60W 68,1KOHM+-1%TK50 RESISTOR	RL 0082.2602.00	DRALORIC	SMA 0207/68,1K-F-C	
R306	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R307	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R308	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R309	RL 0,60W 1MOHM+-1%TK50 RESISTOR	RL 0082.7862.00	DRALORIC	SMA0207/1M-F-D	
R310	RL 0,60W 130 KOHM+-1%TK50 RESISTOR	RL 0083.2093.00	DRALORIC	SMA0207/130K-F-C	
R311	RL 0,60W 27,4KOHM+-1%TK50 RESISTOR	RL 0082.2583.00	DRALORIC	SMA 0207/27,4K-F-C	
R312	RL 0,60W 1MOHM+-1%TK50 RESISTOR	RL 0082.7862.00	DRALORIC	SMA0207/1M-F-D	
R313	RL 0,60W 68,1KOHM+-1%TK50 RESISTOR	RL 0082.2602.00	DRALORIC	SMA 0207/68,1K-F-C	
R314	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R315	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R316	RL 0,60W 1MOHM+-1%TK50 RESISTOR	RL 0082.7862.00	DRALORIC	SMA0207/1M-F-D	
R341	RL 0,60W 33,2KOHM+-1%TK50 RESISTOR	RL 0083.1674.00	DRALORIC	SMA0207/33,2K-F-C	
R342	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 02	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R342	RL 0,60W 30,1KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 05	RL 0083.1639.00	DRALORIC	SMA0207/30,1K-F-C	
R343	RL 0,60W 4,32KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 02	RL 0082.6572.00	DRALORIC	SMA0207/4,32K-F-D	
R343	RL 0,60W 3,32KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 05	RL 0083.0990.00	DRALORIC	SMA0207/3,32K-F-D	
R344	RL 0,60W 27,4KOHM+-1%TK50 RESISTOR	RL 0082.2583.00	DRALORIC	SMA 0207/27,4K-F-C	
R345	RL 0,60W 1,50KOHM+-1%TK50 RESISTOR	RL 0083.0732.00	DRALORIC	SMA0207/1,50K-F-D	
R346	RL 0,60W 11,0KOHM+-1%TK50 RESISTOR NUR VAR/ONLY MOD: 02	RL 0083.1322.00	DRALORIC	SMA0207/11K-F-D	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R346	RL 0,60W 15,0KOHM+-1%TK50 RESISTOR	RL 0083.1400.00	DRALORIC	SMA0207/15K-F-D	
	NUR VAR/ONLY MOD: 05				
R349	RS 0,3W 2KOHM+-10%CERMET CERMET POTENTIOMETER	RS 0086.7921.00	BOURNS	3292X-1- 2KOHM+-10%	
V30	AK BCY59IX N 45V 200MA TRANSISTOR	AK 0010.5163.00	PHILIPS-CO	BCY59IX	
V31	AK BCY59IX N 45V 200MA TRANSISTOR	AK 0010.5163.00	PHILIPS-CO	BCY59IX	
V32	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
V50	AE BZX79/B5V6 0,5W ZDI ZENER DIODE	AE 0012.5254.00	PHILIPS-CO	BZX79/B5V6	
V51	AE BZX79/B5V6 0,5W ZDI ZENER DIODE	AE 0012.5254.00	PHILIPS-CO	BZX79/B5V6	
V60	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V61	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V62	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V70	RL 0,60W 681 KOHM+-1%TK50 RESISTOR	RL 0083.2735.00	DRALORIC	SMA0207/381K-F-C	
	NUR VAR/ONLY MOD: 02				
V70	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
	NUR VAR/ONLY MOD: 05				
V81	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
V82	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
V83	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V84	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V100	AM BSS89 N-E 200V MOSF FET	0651.7666.00	SIEMENS	BSS89(Q62702-S455)	
V101	AM BSS89 N-E 200V MOSF FET	0651.7666.00	SIEMENS	BSS89(Q62702-S455)	
V140	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
V162	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V170	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V200	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V201	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V202	AK BCY59IX N 45V 200MA TRANSISTOR	AK 0010.5163.00	PHILIPS-CO	BCY59IX	
V203	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
V204	AK BCY59IX N 45V 200MA TRANSISTOR	AK 0010.5163.00	PHILIPS-CO	BCY59IX	
V205 ..210	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
V211	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V212	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V213	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V214	AK BCY59IX N 45V 200MA TRANSISTOR	AK 0010.5163.00	PHILIPS-CO	BCY59IX	
V215	AK BCY59IX N 45V 200MA TRANSISTOR	AK 0010.5163.00	PHILIPS-CO	BCY59IX	
V216	AK BCY59IX N 45V 200MA TRANSISTOR	AK 0010.5163.00	PHILIPS-CO	BCY59IX	
V218	AE BAV45 35V PICOAMPDI LOW LEAKAGE DIODE	AE 0252.5386.00	PHILIPS-CO	BAV45	
V219	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V220	AE BZX55/B5V1 0,5W ZDI ZENER DIODE	AE 0262.5837.00	PHILIPS-CO	BZX55/B5V1	
V221	AE BZX55/B5V1 0,5W ZDI ZENER DIODE	AE 0262.5837.00	PHILIPS-CO	BZX55/B5V1	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
V222	AE BZX55/B5V1 0,5W ZDI ZENER DIODE	AE 0262.5837.00	PHILIPS-CO	BZX55/B5V1	
V227	AD 1N4448 75V UDI DIODE NUR VAR/ONLY MOD: 02	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V227	AD 1N4448 75V UDI DIODE NUR VAR/ONLY MOD: 05	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V232	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
V233	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
V234	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V235	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
V236	RL 0-OHM-WIDERST. 0204 0-OHM RESISTOR	RL 0069.0000.00	DRALORIC	OMA 0204	
V240	AK BCY59IX N 45V 200MA TRANSISTOR	AK 0010.5163.00	PHILIPS-CO	BCY59IX	
V242	AK BCY59IX N 45V 200MA TRANSISTOR	AK 0010.5163.00	PHILIPS-CO	BCY59IX	
V243	AE BZX55/B5V1 0,5W ZDI ZENER DIODE	AE 0262.5837.00	PHILIPS-CO	BZX55/B5V1	
V244	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
V300	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
V301	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00	HEWLETT-P.	5082-2800	
V312	AD BAV21 250V UDI DIODE	AD 0082.6837.00	INTERMETAL	BAV21	
X2	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 3-POLIG/3 PINS	FP 0242.3600.00	BINDER	742-11-0179-00-36	
X3	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 1-POLIG/1 PIN	FP 0279.1669.00	BINDER	742-5-11-0201-00-36	
X4	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 5-POLIG/5 PINS	FP 0279.1669.00	BINDER	742-5-11-0201-00-36	
X12	FP STECKERLEISTE 16P.GER CONNECTOR 16POL.	FP 0645.6761.00	SIEMENS	V23535-A1200-A160	
X13	FP STECKERLEISTE 16P.GER CONNECTOR 16POL.	FP 0645.6761.00	SIEMENS	V23535-A1200-A160	
X14	FP STECKERLEISTE 16P.GER CONNECTOR 16POL.	FP 0645.6761.00	SIEMENS	V23535-A1200-A160	
X18	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 3-POLIG/3 PINS	FP 0279.1669.00	BINDER	742-5-11-0201-00-36	
X21	FP KURZSCHLUSSBUCHSE SHORTING PLUG	FP 0491.7042.00	PK	452-70302	
X1A	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 15-POLIG/15PINS	FP 0279.1669.00	BINDER	742-5-11-0201-00-36	
X1B	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 15-POLIG/15PINS	FP 0279.1669.00	BINDER	742-5-11-0201-00-36	
X17A	FP STIFTL.WIN 36P.R2,54 ANGLE PIN CONNECTOR 10-POLIG/10 PINS	FP 0288.1945.00	BINDER	742-5-11-0229-00-36	
X17B	FP STIFTL.WIN 36P.R2,54 ANGLE PIN CONNECTOR 10-POLIG/10 PINS	FP 0288.1951.00	BINDER	742-11-0227-00-36	
X19A	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 3-POLIG/3 PINS	FP 0279.1669.00	BINDER	742-5-11-0201-00-36	
X19B	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 3-POLIG/3 PINS	FP 0279.1669.00	BINDER	742-5-11-0201-00-36	

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
•	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL		
A21	ED VORVERSTAERKERPLATTE PREAMPLIFIER BOARD	680.8021.02	
R60	RK HEISSL 40KOHM10% 0,45W THERMISTOR SIEMENS Q63025-K2044-K	586.8680	
V1	AM MRF136 NKAN POW.MOSF POWER FET MOTOROLA MRF 136	680.9611	
V20	AM SRFE007P NKAN FET PAAR POWER MOSFET MOTOROLA SRFE007P BESTEHT AUS/CONSISTS OF V20A SRFE007 V20B SRFE007	645.6626	
W20	DX HF-KABEL 25 OHM RF CABLE 25 OHM	680.8121	
W21	DX HF-KABEL 25 OHM RF CABLE 25 OHM	680.8138	
X32	DH KABEL 25 OHM M.BNC-BU. CABLE WITH BNC ELSPEC 04-66543-25 MIT BNC-	680.9670	680.8121
X42	DH KABEL 25 OHM M.BNC-BU. CABLE WITH BNC ELSPEC 04-66543-25 MIT BNC-	680.9670	680.8138

- ENDE -

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Bezeichnung Manufacturer Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL			
..	ZUGEH.STROML./CIRC.DIAGR. 680.8015.01 S			
C1	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C2	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C3	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C5	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C6	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C10	CC 56PF+-10%200V5K1200VIE CAPACITOR	084.5221	UNION CARB CK05BX560K	
C20	CG 330PF+-1% 250V TKF MICA CAPACITOR	CG 023.1561	ASHCROFT 273 250V 330PF+-1%	
C21	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C22	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C23	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C24	CC 100NF+-10%50V5K1200VIE CAPACITOR.	CC 084.5350	UNION CARB CK05BX104K	
C25	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C26	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C29	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C30	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C31	CC 120PF+-10%200V5K1200VI CAPACITOR	084.5267	UNION CARB CK05BX121K	
C40	CC 330PF+-10%200V K1200VI CAPACITOR	CC 060.1090	UNION CARB CK05BX331K	
C41	CC 100PF+-10%200V5K1200VI CAPACITOR	CC 084.5250	UNION CARB CK05BX101K	
C51	CC 100PF+-10%200V5K1200VI CAPACITOR	CC 084.5250	UNION CARB CK05BX101K	
C52	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 068.4047	UNION CARB CK05BX102K	
C55	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 068.4060	UNION CARB CK05BX103K	
C61	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C62	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C63	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 068.4047	UNION CARB CK05BX102K	
C64	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C65	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 068.4060	UNION CARB CK05BX103K	
C71	CC 100PF+-10%200V5K1200VI CAPACITOR	CC 084.5250	UNION CARB CK05BX101K	
C72	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 068.4047	UNION CARB CK05BX102K	
C73	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 068.4047	UNION CARB CK05BX102K	
C74	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C75	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 068.4047	UNION CARB CK05BX102K	
C80	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C81	CC 100PF+-10%200V5K1200VI CAPACITOR	CC 084.5250	UNION CARB CK05BX101K	
C82	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 068.4047	UNION CARB CK05BX102K	
C90	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	
C91	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB CK05BX104K	

Kennz. Comp.No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C92	CE 220UF-10+50%40V12,5X20 ALUMINIUM CAPACITOR		565.9494	ROEDERST	EKR00FE322G	
C93	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC	084.5350	UNION CARB	CK05BX104K	
C94	CE 220UF-10+50%40V12,5X20 ALUMINIUM CAPACITOR		565.9494	ROEDERST	EKR00FE322G	
F1	SS SCHMELZS.F3,15DIN41660 FUSE	SS	344.6971	-	R&S-K-BL. SS1201	
K10	SN GEPOLT 2XU 12V RELAY		645.6810	SDS	DS2E-DC12V	
L1	LD 2,70UH10%0,550HM0,355A CHOKE	LD	067.2911	DELEVAN	DROSSEL1025-30	
L2	LD 5UH 10 A 0,0050HM CHOKE	LD	026.4810	SIEMENS	B82111-B-C21	
L3	LD 100 UH10%8,000HM0,084A CHOKE	LD	067.3101	DELEVAN	DROSSEL1025-68	
L5	LD 100UH 20% 1A 0,6500HM CHOKE	LD	155.9446	SIEMENS	B82111-E-C25	
L20	ENTHALTEN IN/INCLUDED IN 680.8038 GEDR.SPULE/PRINTED COIL					
L30	ENTHALTEN IN/INCLUDED IN 680.8038 GEDR.SPULE/PRINTED COIL					
N1	BO UA723DM ADJOA1 VREGL VOLTAGE REGULATOR		283.9425	RAYTHEON	RM-723D	
N2	BO TL074IN 4XFET OPAMP OPERATIONAL AMPLIFIER		568.7528	TEXAS INST	TL074IN	
R1	RL 0,60W22,10 OHM+-1%TK50 RESISTOR	RL	082.9188	DRALORIC	SMA0207/22,1OHM-F-D	
R2	RL 0,60W 750 OHM+-1%TK50 RESISTOR TRIMMWERT	RL	082.2360	DRALORIC	SMA0207/750OHM-F-C	
R3	RL 0,60W 825 OHM+-1%TK50 RESISTOR	RL	082.2502	DRALORIC	SMA 0207/825OHM-F-C	
R4	RS 0,3W 10KOHM+-10%CERMET TRIMMING POTENTIOMETER	RS	006.9145	BECKMAN	67W 10KOHM 10%	
R5	RL 0,60W 1,21KOHM+-1%TK50 RESISTOR	RL	083.0655	DRALORIC	SMA0207/1,21K-F-D	
R6	RL 0,60W 2,74KOHM+-1%TK50 RESISTOR	RL	083.0926	DRALORIC	SMA0207/2,74K-F-D	
R10	RJ 2,0W 100 OHM+-2% 0617 METAL OXID RESISTOR		680.9511	DRALORIC	SXA0617 100OHM 2%	
R11	RF 0,5 W 68 OHM+-5% DEPOS.-CARBON RESISTOR		007.1231	RESISTA	SK4/68OHM5%	
R12	RL 0,60W 100 OHM+-1%TK50 RESISTOR	RL	082.6543	DRALORIC	SMA0207/100/HM-F-D	
R20	RF 0,5 W 3,9 OHM+-5% RESISTOR		007.1083	RESISTA	SK4/3,9OHM5%	
R21	RF 0,5 W 3,9 OHM+-5% RESISTOR		007.1083	RESISTA	SK4/3,9OHM5%	
R22	RL 0,60W15 OHM 1%TK50 RESISTOR	RL	082.9020	DRALORIC	SMA0207/15OHM-F-D	
R23	RL 0,60W15 OHM 1%TK50 RESISTOR	RL	082.9020	DRALORIC	SMA0207/15OHM-F-D	
R24	RL 0,60W 2,74KOHM+-1%TK50 RESISTOR	RL	083.0926	DRALORIC	SMA0207/2,74K-F-D	
R25	RL 0,60W 2,74KOHM+-1%TK50 RESISTOR	RL	083.0926	DRALORIC	SMA0207/2,74K-F-D	
R26	RS 0,3W 10KOHM+-10%CERMET TRIMMING POTENTIOMETER	RS	006.9145	BECKMAN	67W 10KOHM 10%	
R27	RL 0,60W 1,21KOHM+-1%TK50 RESISTOR	RL	083.0655	DRALORIC	SMA0207/1,21K-F-D	
R28	RJ 4,0W 47 OHM+-2% 0922 METAL OXID RESISTOR		680.9534	DRALORIC	SXA 0922 47OHM 2%	
R29	RJ 4,0W 47 OHM+-2% 0922 METAL OXID RESISTOR		680.9534	DRALORIC	SXA 0922 47OHM 2%	
R30	RL 0,60W 1,21KOHM+-1%TK50 RESISTOR	RL	083.0655	DRALORIC	SMA0207/1,21K-F-D	
R31	RS 0,3W 10KOHM+-10%CERMET TRIMMING POTENTIOMETER	RS	006.9145	BECKMAN	67W 10KOHM 10%	
R40	RJ 4,0W 100OHM+-2% 0922 METAL OXID RESISTOR		680.9528	DRALORIC	SXA 0922 100OHM 2%	

Kennz. Comp.No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R41	RJ 4,0W 100OHM+-2% 0922 METAL OXID RESISTOR		680.9528	DRALORIC	SXA 0922 100OHM 2%	
R50	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL	082.2160	DRALORIC	SMA0207/1K-F-C	
R51	RL 0,35W 511 OHM+-1%TK50 RESISTOR	RL	083.0426	DRALORIC	SMA0207/511OHM-F-D	
R52	RL 0,60W 51,1KOHM+-1%TK50 RESISTOR	RL	083.1822	DRALORIC	SMA/207/51,1K-F-C	
R53	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL	083.1297	DRALORIC	SMA0207/10K-F-D	
R55	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL	083.1297	DRALORIC	SMA0207/10K-F-D	
R61	RL 0,60W 5,62KOHM+-1%TK50 RESISTOR TRIMMWERT / SELECTED	RL	082.2190	DRALORIC	SMA0207/5,62K-F-C	
R62	RL 0,60W 1MOHM+-1%TK50 RESISTOR	RL	082.7862	DRALORIC	SMA0207/1M-F-D	
R65	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL	083.1297	DRALORIC	SMA0207/10K-F-D	
R66	RL 0,60W 274 KOHM+-1%TK50 RESISTOR	RL	083.2364	DRALORIC	SMA/207/274K-F-C	
R70	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL	082.2160	DRALORIC	SMA0207/1K-F-C	
R71	RL 0,60W 475 OHM+-1%TK50 RESISTOR	RL	083.0390	DRALORIC	SMA0207/475OHM-F-D	
R72	RL 0,60W 51,1KOHM+-1%TK50 RESISTOR	RL	083.1822	DRALORIC	SMA/207/51,1K-F-C	
R73	RL 0,60W 27,4KOHM+-1%TK50 RESISTOR	RL	082.2583	DRALORIC	SMA 0207/27,4K-F-C	
R74	RL 0,60W 39,2KOHM+-1%TK50 RESISTOR	RL	083.1745	DRALORIC	SMA/207/39,2K-F-C	
R75	RL 0,60W 82,5KOHM+-1%TK50 RESISTOR	RL	082.2302	DRALORIC	SMA0207/82,5K-F-C	
R80	RL 0,60W11,00 OHM+-1%TK50 RESISTOR	RL	082.8898	DRALORIC	SMA0207/11OHM-F-D	
R81	RL 0,60W 2,74KOHM+-1%TK50 RESISTOR	RL	083.0926	DRALORIC	SMA0207/2,74K-F-D	
R82	RL 0,60W 6,81KOHM+-1%TK50 RESISTOR	RL	082.2560	DRALORIC	SMA 0207/6,81K-F-C	
R84	RL 0,60W 2,00KOHM+-1%TK50 RESISTOR	RL	083.0826	DRALORIC	SMA0207/2.00K-F-D	
R85	RL 0,60W 2,00KOHM+-1%TK50 RESISTOR	RL	083.0826	DRALORIC	SMA0207/2,00K-F-D	
R86	RL 0,60W 75,0KOHM+-1%TK50 RESISTOR	RL	083.1916	DRALORIC	SMA/207/75K-F-C	
R87	RL 0,60W 22,1KOHM+-1%TK50 RESISTOR	RL	083.1545	DRALORIC	SMA/207/22,1K-F-C	
R88	RL 0,60W 22,1KOHM+-1%TK50 RESISTOR	RL	083.1545	DRALORIC	SMA/207/22,1K-F-C	
R89	RL 0,60W 150 OHM+-1%TK50 RESISTOR	RL	082.9942	DRALORIC	SMA0207/150OHM-F-D	
T10	LU UEBERTRAGER TRANSFORMER		680.8173			
T20	LU UEBERTRAGER TRANSFORMER		680.8180			
T30	LU UEBERTRAGER TRANSFORMER		680.8196			
T40	LU UEBERTRAGER TRANSFORMER		680.8209			
V50	AE 5082-2800 SCHOTTKY DIODE	AE	012.9066	HEWLETT-P.	5082-2800	
V70	AE 5082-2800 SCHOTTKY DIODE	AE	012.9066	HEWLETT-P.	5082-2800	
V72	AK BCY59IX N 45V 200MA TRANSISTOR	AK	010.5163	PHILIPS-CO	BCY59IX	
V73	AD 1N4448 75V 0A15 UDI DIODE	AD	012.0700	TEXAS INST	1N4448 GEGURTET	
V80	AK BCY59IX N 45V 200MA TRANSISTOR	AK	010.5163	PHILIPS-CO	BCY59IX	
V81	AK BCY59IX N 45V 200MA TRANSISTOR	AK	010.5163	PHILIPS-CO	BCY59IX	
W1	DY FLACHBANDLEITUNG RIBBON CABLE		680.8167			

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
X12	FP BUCHSENLEISTE 16POL. CONNECTOR 16POL.	FP 645.6778	PANDUIT	050A-016-435A	680.8167
X21	FJ EINBAUBUCHSE SYST.BNC BNC FLANGE	FJ 017.4304	ROSENBERG	51K404-200P4	
X20A	FV FLACHSTECKER GR.6,3 FLAT-CABLE PLUG	FV 530.5457	VOGT	3866A/MS-SN8	
X20C	FV FLACHSTECKER GR.6,3 FLAT-CABLE PLUG	FV 530.5457	VOGT	3866A/MS-SN8	
					- ENDE -

ROHDE&SCHWARZ	ÄZ	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt Page
	01	0585	ZE COMBINER	680.6764.01 SA	1

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL		
..	ZUGEH.STROML./CIRC.DIAGR. 680.6764.01 S		
A51	EE COMBINERBOARD	680.6770.02	
R1	BD WIDERSTAND 50 OHM 180W	915.2602	
			- ENDE -

ROHDE&SCHWARZ	ÄZ 03	Datum / Date 0785	Schaltteilliste für / Parts list for EE COMBINERBOARD	Sachnummer / Stock No. 680.6770.01 SA	Blatt / Page 1

Kennzeichen / Component No.	Benennung/Beschreibung / Designation	Sachnummer / Stock No.	enthalten in / contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL		
..	ZUGEH.STROML./CIRC.DIAGR. 680.6764.01 S		
C1	:: 18P 1KV / 6EGB/PL	520.5919	
W1	DX HF-KABEL RF CABLE	680.6793	
W2	DX HF-KABEL RF CABLE	680.6806	
W3	DX HF-KABEL RF CABLE	680.6812	
W4	DX HF-KABEL RF CABLE	680.6829	
W5	DX HF-KABEL RF CABLE	680.6829	
W6	DX HF-KABEL RF CABLE	680.6835	
W7	DX HF-KABEL RF CABLE	680.6835	
W8	DX HF-KABEL RF CABLE	680.6829	
W9	DX HF-KABEL RF CABLE	680.6829	
X53	FJ EINBAUBUCHSE SYST.N CONNECTOR SUHNER 23N-50-0-1/133	FJ 395.1377	
X54	FJ EINBAUBUCHSE SYST.N CONNECTOR SUHNER 23N-50-0-1/133	FJ 395.1377	
X75	FJ WINKELKABELST. SYST.N SUHNER 16N-50-3-7C	FJ 503.4824	680.6812

- ENDE -

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL				
C1	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
K1	SN 24V MINIATUR 1 MAL 21 RELAY	680.9628	SIEMENS	V23056-B0233-A101	
K2	SN 24V 2XUM 10A 1100 OHM RELAY	520.5802	SIEMENS	V23037-A5-A101	
R1	RK VARISTOR 320V 1MA 0,8W VARISTOR	473.2136	SIEMENS	Q69-X3232	
R2	RK VARISTOR 320V 1MA 0,8W VARISTOR	473.2136	SIEMENS	Q69-X3232	
V1	AG 1N4007 GL1000V 1A0 RECTIFIER	AG 013.0310	AEG-TELEF	1N4007	
V2	AG 1N4007 GL1000V 1A0 RECTIFIER	AG 013.0310	AEG-TELEF	1N4007	
X2	FP STIFTSOCKEL F.GS 3P. CONNECTOR 3POL	520.5825	AMP	826840-3	
X3	FP STIFTSOCKEL F.GS 3P. CONNECTOR 3POL	520.5825	AMP	826840-3	
X4	FP STIFTSOCKEL F.GS 2P. CONNECTOR 2POL	681.1195	AMP	350786-1	
X91	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 2X3-POLIG/2X3 PINS	FP 279.1669	BINDER	742-5-11-0201-00-36	
					- ENDE -

ROHDE & SCHWARZ	Äl	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt Page
	05	1190	ED LUEFTERSTEUERUNG BLOWER CONTROL UNIT	680.9411.01 SA	1-

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.		Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL					
C1	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC	084.5350	UNION CARB	CK05BX104K	
C2	CS 330NF 400V 32X18X28 X2 RADIO SCREENING CAPACITOR		681.1237	SIEMENS	B81121-C-B100	
C3	CS 330NF 400V 32X18X28 X2 RADIO SCREENING CAPACITOR		681.1237	SIEMENS	B81121-C-B100	
K1	SN 24V MINIATUR 1 MAL 21 RELAY		680.9628	SIEMENS	V23056-B0233-A101	
K2	SN 24V 2XUM 10A 1100 OHM RELAY		520.5802	SIEMENS	V23037-A5-A101	
R1	RK VARISTOR 320V 1MA 0,8W VARISTOR		473.2136	SIEMENS	Q69-X3232	
R2	RK VARISTOR 320V 1MA 0,8W VARISTOR		473.2136	SIEMENS	Q69-X3232	
R3	RJ 2,0W 100 OHM+-2% 0617 METAL OXID RESISTOR		680.9511	DRALORIC	SXA0617 100OHM 2%	
R4	RJ 2,0W 100 OHM+-2% 0617 METAL OXID RESISTOR		680.9511	DRALORIC	SXA0617 100OHM 2%	
V1	AG 1N4007 GL1000V 1A0 RECTIFIER	AG	013.0310	AEG-TELEF	1N4007	
V2	AG 1N4007 GL1000V 1A0 RECTIFIER	AG	013.0310	AEG-TELEF	1N4007	
X2	FP STIFTSOCKEL F.GS 3P. CONNECTOR 3POL		520.5825	AMP	826840-3	
X3	FP STIFTSOCKEL F.GS 3P. CONNECTOR 3POL		520.5825	AMP	826840-3	
X4	FP STIFTSOCKEL F.GS 2P. CONNECTOR 2POL		681.1195	AMP	350786-1	
X5 ..8	VL LOETOESE 11,5 X 1,4 SOLDERING PIN	VL	082.5247	VOGT	N.ZEICHNUNG 082.5247	
X91	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 2X3-POLIG/2X3 PINS	FP	279.1669	BINDER	742-5-11-0201-00-36	
						- ENDE -

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL				
A31	ED ENDSTUFENPLATTE FINAL STAGE BOARD	680.6129.02			
R74	RK HEISSL 6KOHM 10% 0,4W THERMISTOR	645.6684	SIEMENS	Q63025-K2063-K	
R81	RK KTY16A TEMP.SENSOR SENSOR	645.7100	SIEMENS	KTY16A	
R97	RD 8W 0,01 OHM+-1% GEH. WIRE WOUND RESISTOR	RD 418.2273	DALE	RH-10-0,01OHM1%	
R500	BD WIDERSTAND 200 OHM 50W RESISTOR 200 OHM 50W	915.2402			
R501	BD WIDERSTAND 100OHM 100W RESISTOR 100 OHM 100W	915.2502			
R502	BD WIDERSTAND 200 OHM 50W RESISTOR 200 OHM 50W	915.2402			
T1	LU UEBERTRAGER TRANSFORMER	680.6364			
T2	LU UEBERTRAGER TRANSFORMER	680.6370			
T3	LU UEBERTRAGER TRANSFORMER	680.6370			
T101	LU UEBERTRAGER TRANSFORMER	680.6393			
T102	LU UEBERTRAGER TRANSFORMER	680.6406			
T103	LU UEBERTRAGER TRANSFORMER	680.6406			
T201	LU UEBERTRAGER TRANSFORMER	680.6393			
T202	LU UEBERTRAGER TRANSFORMER	680.6406			
T203	LU UEBERTRAGER TRANSFORMER	680.6406			
T301	LU UEBERTRAGER TRANSFORMER	680.6393			
T302	LU UEBERTRAGER TRANSFORMER	680.6406			
T303	LU UEBERTRAGER TRANSFORMER	680.6406			
T401	LU UEBERTRAGER TRANSFORMER	680.6393			
T402	LU UEBERTRAGER TRANSFORMER	680.6406			
T403	LU UEBERTRAGER TRANSFORMER	680.6406			
T500	LU UEBERTRAGER TRANSFORMER	680.6435			
T501	LU UEBERTRAGER TRANSFORMER	680.6435			
T502	LU UEBERTRAGER TRANSFORMER	680.6435			
V100A	AM SRFE009 N-E 125V PAAR BERYLLIUMOXID HINWEISE BEACHTEN OBSERVE INSTRUCTIONS POWER-FET PAIR	680.6164	MOTOROLA	SRFE009P	
V100B	AM SRFE009 N-E 125V PAAR BERYLLIUMOXID HINWEISE BEACHTEN OBSERVE INSTRUCTIONS POWER-FET PAIR	680.6164	MOTOROLA	SRFE009P	
V200A	AM SRFE009 N-E 125V PAAR BERYLLIUMOXID HINWEISE BEACHTEN OBSERVE INSTRUCTIONS POWER-FET PAIR	680.6164	MOTOROLA	SRFE009P	
V200B	AM SRFE009 N-E 125V PAAR BERYLLIUMOXID HINWEISE BEACHTEN OBSERVE INSTRUCTIONS POWER-FET PAIR	680.6164	MOTOROLA	SRFE009P	

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
V300A	AM SRFE009 N-E 125V PAAR BERYLLIUMOXID HINWEISE BEACHTEN OBSERVE INSTRUCTIONS POWER-FET PAIR	680.6164	MOTOROLA	SRFE009P	
V300B	AM SRFE009 N-E 125V PAAR BERYLLIUMOXID HINWEISE BEACHTEN OBSERVE INSTRUCTIONS POWER-FET PAIR	680.6164	MOTOROLA	SRFE009P	
V400A	AM SRFE009 N-E 125V PAAR BERYLLIUMOXID HINWEISE BEACHTEN OBSERVE INSTRUCTIONS POWER-FET PAIR	680.6164	MOTOROLA	SRFE009P	
V400B	AM SRFE009 N-E 125V PAAR BERYLLIUMOXID HINWEISE BEACHTEN OBSERVE INSTRUCTIONS POWER-FET PAIR	680.6164	MOTOROLA	SRFE009P	
					- ENDE -

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL VAR 03 = FUER VK2900 MOD 03 = FOR VK2900				
..	ZUGEH.STROML./CIRC.DIAGR. 680.6112.01 S				
C1	CC 27PF+-10%200V5K1200VIE CAPACITOR	0084.5180.00	UNION CARB	CK05BX270K	
C2	CC 47PF+-10%200V5K1200VIE CAPACITOR	CC 0084.5215.00	UNION CARB	CK05BX470K	
C3	CC 47PF+-10%200V5K1200VIE CAPACITOR	CC 0084.5215.00	UNION CARB	CK05BX470K	
C10	CC 4,7PF+-0,5PF1KV/N470 CERAMIC CAPACITORS	0680.4378.00	DRALORIC	SDPT 5 1KV 4.7PF	
C11	CC 270PF+-10%200V K1200VI CAPACITOR	0060.1084.00	UNION CARB	CK05BX271K	
C12	CC 2,7NF+-10%100V5K1200VI CERAMIC CAPACITOR	0082.7404.00	UNION CARB	CK05BX272K	
C13	CC 12PF 5% N750/IB RD5 CERAMIC CAPACITOR	0006.0331.00	PHILIPS-CO	2222 654 58129	
C14	CC 12PF 5% N750/IB RD5 CERAMIC CAPACITOR	0006.0331.00	PHILIPS-CO	2222 654 58129	
C20	CC 8,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	0082.7433.00	UNION CARB	CK05BX822K	
C21	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C22	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C30	CC 8,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	0082.7433.00	UNION CARB	CK05BX822K	
C31	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C32	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C40	CC 8,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	0082.7433.00	UNION CARB	CK05BX822K	
C42	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C70	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 0068.4060.00	UNION CARB	CK05BX103K	
C71	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C72	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C73	CE 10 UF+-20%25V 5X13TA ELECTROLYTIC CAPACITOR	0087.9470.00	TEKELEC	ATR-B	
C74	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C75	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C80	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C81	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C82	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C83	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C84	CC 100NF+-10%100V K1200VI CERAMIC CAPACITOR	0060.1149.00	UNION CARB	CK06BX104K	
C85	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C86	CC 100NF+-10%100V K1200VI CERAMIC CAPACITOR	0060.1149.00	UNION CARB	CK06BX104K	
C87	CC 100PF+-10%200V5K1200VI CAPACITOR	CC 0084.5250.00	UNION CARB	CK05BX101K	
C88	CC 100PF+-10%200V5K1200VI CAPACITOR	CC 0084.5250.00	UNION CARB	CK05BX101K	
C89	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 0068.4060.00	UNION CARB	CK05BX103K	
C90	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 0068.4060.00	UNION CARB	CK05BX103K	
C91	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 0068.4060.00	UNION CARB	CK05BX103K	
C92	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 0068.4060.00	UNION CARB	CK05BX103K	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C93	CE 220UF-10+50%63V12,5H30 ELECTROLYTIC CAPACITOR	0651.8004.00	FROLYT	EKR 00 FJ 322J	
C94	CC 100NF+-10%100V K1200VI CERAMIC CAPACITOR	0060.1149.00	UNION CARB	CK06BX104K	
C95	CC 100NF+-10%100V K1200VI CERAMIC CAPACITOR	0060.1149.00	UNION CARB	CK06BX104K	
C96	CC 100NF+-10%100V K1200VI CERAMIC CAPACITOR	0060.1149.00	UNION CARB	CK06BX104K	
C97	CC 100NF+-10%100V K1200VI CERAMIC CAPACITOR	0060.1149.00	UNION CARB	CK06BX104K	
C98	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C99	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 0068.4047.00	UNION CARB	CK05BX102K	
C100	CC 22PF+- 5%100V NPO VIEL CERAMIC CAPACITOR	CC 0060.0694.00	UNIONCARB	C052C220J2G1CA	
C101	TRIMMWERT / SELECTED				
C102	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C103	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C104	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C105	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C110	CC 8,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	0082.7433.00	UNION CARB	CK05BX822K	
C111	CC 8,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	0082.7433.00	UNION CARB	CK05BX822K	
C112	CC 560PF+-10%200V5K1200VI CAPACITOR	0082.7462.00	UNION CARB	CK05BX561K	
C113	CC 680PF+-10%200V5K1200VI CAPACITOR	CC 0060.2368.00	UNION CARB	CK05BX681K	
C120	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C121	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C123	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C124	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C140	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C141	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C200	CC 22PF+- 5%100V NPO VIEL CERAMIC CAPACITOR	CC 0060.0694.00	UNIONCARB	C052C220J2G1CA	
C201	TRIMMWERT / SELECTED				
C202	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C203	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C204	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C205	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C210	CC 8,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	0082.7433.00	UNION CARB	CK05BX822K	
C211	CC 8,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	0082.7433.00	UNION CARB	CK05BX822K	
C212	CC 1,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	0084.5280.00	UNION CARB	CK05BX122K	
C213	CC 680PF+-10%200V5K1200VI CAPACITOR	CC 0060.2368.00	UNION CARB	CK05BX681K	
C220	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C221	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C223	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C224	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C240	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C241	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C300	CC 22PF+- 5%100V NPO VIEL CERAMIC CAPACITOR	CC 0060.0694.00	UNIONCARB	C052C220J2G1CA	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C301	TRIMMWERT / SELECTED				
C302	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C303	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C304	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C305	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C310	CC 8,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	0082.7433.00	UNION CARB	CK05BX822K	
C311	CC 8,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	0082.7433.00	UNION CARB	CK05BX822K	
C312	CC 560PF+-10%200V5K1200VI CAPACITOR	0082.7462.00	UNION CARB	CK05BX561K	
C313	CC 680PF+-10%200V5K1200VI CAPACITOR	CC 0060.2368.00	UNION CARB	CK05BX681K	
C320	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C321	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C323	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C324	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C340	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C341	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C400	CC 22PF+- 5%100V NPO VIEL CERAMIC CAPACITOR	CC 0060.0694.00	UNIONCARB	C052C220J2G1CA	
C401	TRIMMWERT / SELECTED				
C402	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C403	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C404	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C405	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C410	CC 8,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	0082.7433.00	UNION CARB	CK05BX822K	
C411	CC 8,2NF+-10%100V5K1200VI CERAMIC CAPACITOR	0082.7433.00	UNION CARB	CK05BX822K	
C412	CC 560PF+-10%200V5K1200VI CAPACITOR	0082.7462.00	UNION CARB	CK05BX561K	
C413	CC 680PF+-10%200V5K1200VI CAPACITOR	CC 0060.2368.00	UNION CARB	CK05BX681K	
C420	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C421	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C423	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C424	CC 10NF+-20% -100MHZ 200V PORCELAIN CAPACITOR	6058.4807.00	ATC	ATC900C-103-M-W-300	
C440	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C441	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 0084.5350.00	UNION CARB	CK05BX104K	
C504	CC 3,3NF+-10%100V5K1200VI CERAMIC CAPACITOR	CC 0060.2397.00	UNION CARB	CK05BX332K	
C106A	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C106B	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C108A	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C108B	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C206A	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C206B	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C208A	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C208B	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C306A	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C306B	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C308A	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C308B	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C406A	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C406B	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C408A	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
C408B	CC 100NF+-20% 50V PELL CERAMIC CHIP CAPACITOR	6033.3759.00	ATC	ATC200B104MP50RX	
D1	BL MC14073BAL 3X3IN. ANDG AND GATE	0418.0141.00	RCA	CD4073BF	
L100	LD 2,70UH10%0,55OHMO,355A CHOKE	LD 0067.2911.00	DELEVAN	1025-30	
L200	LD 2,70UH10%0,55OHMO,355A CHOKE	LD 0067.2911.00	DELEVAN	1025-30	
L300	LD 2,70UH10%0,55OHMO,355A CHOKE	LD 0067.2911.00	DELEVAN	1025-30	
L400	LD 2,70UH10%0,55OHMO,355A CHOKE	LD 0067.2911.00	DELEVAN	1025-30	
N1	BO TL074IN LN 4XFET OPAMP OPERATIONAL AMPLIFIER	0568.7528.00	TEXAS INST	TL074IN	
N2	BO TL074IN LN 4XFET OPAMP OPERATIONAL AMPLIFIER	0568.7528.00	TEXAS INST	TL074IN	
N3	BO CA3290AT 2X COMPAR COMPARATOR	BO 0333.3476.00	RCA	CA3290AT	
N4	BO CA3290AT 2X COMPAR COMPARATOR	BO 0333.3476.00	RCA	CA3290AT	
N5	BO CA3290AT 2X COMPAR COMPARATOR	BO 0333.3476.00	RCA	CA3290AT	
N6	BO UA723DM ADJOA1 VREGL VOLTAGE REGULATOR	0283.9425.00	RAYTHEON	RM-723D	
R1	RJ 4,0W 100OHM+-2% 0922 METAL OXID RESISTOR	0680.9528.00	DRALORIC	SXA 0922 100OHM 2%	
R3	RJ 2,0W 200 OHM+-2% 0617 METAL OXID RESISTOR	0680.9540.00	DRALORIC	SXA0617 200OHM 2%	
R5	RJ 2,0W 200 OHM+-2% 0617 METAL OXID RESISTOR	0680.9540.00	DRALORIC	SXA0617 200OHM 2%	
R10	RL 0,60W 18,2KOHM+-1%TK50 RESISTOR	RL 0083.1480.00	DRALORIC	SMA/207/18,2K-F-C	
R11	RL 0,60W 221 KOHM+-1%TK50 RESISTOR	RL 0083.2270.00	DRALORIC	SMA0207/221K-F-C	
R22	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R23	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R24	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R25	RL 0,60W 5,62KOHM+-1%TK50 RESISTOR	RL 0082.2190.00	DRALORIC	SMA0207/5,62K-F-C	
R26	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R27	RL 0,60W 5,62KOHM+-1%TK50 RESISTOR	RL 0082.2190.00	DRALORIC	SMA0207/5,62K-F-C	
R28	RL 0,60W 1,82KOHM+-1%TK50 RESISTOR	RL 0082.2277.00	DRALORIC	SMA0207/1,82K-F-C	
R32	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R33	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R34	RL 0,60W 1,82KOHM+-1%TK50 RESISTOR	RL 0082.2277.00	DRALORIC	SMA0207/1,82K-F-C	
R35	RL 0,60W 5,62KOHM+-1%TK50 RESISTOR	RL 0082.2190.00	DRALORIC	SMA0207/5,62K-F-C	
R36	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R37	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	

2KCW	Ä1	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt-Nr. Page
ROHDE&SCHWARZ	24	28.04.94	ED ENDSTUFENPLATTE	0680.6129.01 SA	4+

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R38	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R39	RL 0,60W 1,82KOHM+-1%TK50 RESISTOR	RL 0082.2277.00	DRALORIC	SMA0207/1,82K-F-C	
R42	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R43	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R44	RL 0,60W 5,62KOHM+-1%TK50 RESISTOR	RL 0082.2190.00	DRALORIC	SMA0207/5,62K-F-C	
R45	RL 0,60W 1,82KOHM+-1%TK50 RESISTOR	RL 0082.2277.00	DRALORIC	SMA0207/1,82K-F-C	
R46	RL 0,60W 5,62KOHM+-1%TK50 RESISTOR	RL 0082.2190.00	DRALORIC	SMA0207/5,62K-F-C	
R47	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R48	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R49	RL 0,60W 1,82KOHM+-1%TK50 RESISTOR	RL 0082.2277.00	DRALORIC	SMA0207/1,82K-F-C	
R52	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R53	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R54	RL 0,60W 5,62KOHM+-1%TK50 RESISTOR	RL 0082.2190.00	DRALORIC	SMA0207/5,62K-F-C	
R55	RL 0,60W 1,82KOHM+-1%TK50 RESISTOR	RL 0082.2277.00	DRALORIC	SMA0207/1,82K-F-C	
R56	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R66	RL 0,60W 2,21KOHM+-1%TK50 RESISTOR	RL 0082.2477.00	DRALORIC	SMA 0207/2,21K-F-C	
R69	RL 0,60W 8,25KOHM+-1%TK50 RESISTOR	RL 0083.1239.00	DRALORIC	SMA0207/8,25K-F-D	
R70	RL 0,35W787 OHM+-0,1%TK25 RESISTOR	RL 0083.8940.00	DRALORIC	SMA0207	
R71	RL 0,60W 2,21KOHM+-1%TK50 RESISTOR	RL 0082.2477.00	DRALORIC	SMA 0207/2,21K-F-C	
R72	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R73	RL 0,60W 10,0 OHM+-1%TK50 RESISTOR	RL 0082.8852.00	DRALORIC	SMA0207/10OHM-F-D	
R75	RL 0,35W4,22KOHM+-0,1%T25 RESISTOR	RL 0084.2345.00	DRALORIC	SMA0207	
R76	RL 0,35W5,36KOHM+-0,1%T25 RESISTOR	RL 0084.2545.00			
R77	RL 0,60W 2,21KOHM+-1%TK50 RESISTOR	RL 0082.2477.00	DRALORIC	SMA 0207/2,21K-F-C	
R78	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R79	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R80	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 0083.1297.00	DRALORIC	SMA0207/10K-F-D	
R82	RL 0,60W 150 OHM+-1%TK50 RESISTOR	RL 0082.9942.00	DRALORIC	SMA0207/150OHM-F-D	
R83	TRIMMWERT / SELECTED				
R84	RL 0,35W22,1KOHM+-0,1%T25 RESISTOR	RL 0084.3729.00	DRALORIC	SMA0207	
R85	RL 0,35W5,36KOHM+-0,1%T25 RESISTOR	RL 0084.2545.00			
R86	RL 0,35W22,1KOHM+-0,1%T25 RESISTOR	RL 0084.3729.00	DRALORIC	SMA0207	
R87	RL 0,60W 221 KOHM+-1%TK50 RESISTOR	RL 0083.2270.00	DRALORIC	SMA0207/221K-F-C	
R88	RL 0,35W5,62KOHM+-0,1%T25 RESISTOR	RL 0084.2580.00	DRALORIC	SMA0207/5,62K-B-E	
R95	RL 0,60W 2,21KOHM+-1%TK50 RESISTOR	RL 0082.2477.00	DRALORIC	SMA 0207/2,21K-F-C	
R96	RL 0,60W 22,1KOHM+-1%TK50 RESISTOR	RL 0083.1545.00	DRALORIC	SMA/207/22,1K-F-C	
R100	TRIMMWERT / SELECTED				
R101	TRIMMWERT / SELECTED				
R102	TRIMMWERT / SELECTED				
R103 ..106	RJ 1W 2,2 OHM+-2% TK200 METALOXID RESISTOR	0520.5760.00	RESISTA	WK4 2,2OHM 2%	
R107	RL 0,65W 2,21 OHM+-1%TK50 METAL FILM RESISTOR	0006.1709.00	RESISTA	MK4 2,21 OHM 1% TK50	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R108	RL 0,65W 2,21 OHM+-1%TK50 METAL FILM RESISTOR	0006.1709.00	RESISTA	MK4 2,21 OHM 1% TK50	
R109	RJ 4,0W 100OHM+-2% 0922 METAL OXID RESISTOR	0680.9528.00	DRALORIC	SXA 0922 100OHM 2%	
R110	RJ 4,0W 100OHM+-2% 0922 METAL OXID RESISTOR	0680.9528.00	DRALORIC	SXA 0922 100OHM 2%	
R111	RL 1W 221 OHM+-1%TK100 METAL FILM RESISTOR	RL 0006.4866.00	ROEDERSTEI	MK 5	
R112	RL 0,60W 332 OHM+-1%TK50 RESISTOR	RL 0083.0255.00	DRALORIC	SMA0207/332OHM-F-D	
R113	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R114	RL 0,60W 33,2KOHM+-1%TK50 RESISTOR	RL 0083.1674.00	DRALORIC	SMA0207/33,2K-F-C	
R140	RL 0,60W 100 OHM+-1%TK50 RESISTOR	RL 0082.6543.00	DRALORIC	SMA0207/100/HM-F-D	
R141	RL 0,60W 100 OHM+-1%TK50 RESISTOR	RL 0082.6543.00	DRALORIC	SMA0207/100/HM-F-D	
R142	RS 0,25W 5KOHM+-5% SQUARE SQUARE-POTENTIOMETER	0646.7190.00	VISHAY	1240 W 5KOHM 5%	
R143	RS 0,25W 5KOHM+-5% SQUARE SQUARE-POTENTIOMETER	0646.7190.00	VISHAY	1240 W 5KOHM 5%	
R144	RL 0,60W 2,21KOHM+-1%TK50 RESISTOR	RL 0082.2477.00	DRALORIC	SMA 0207/2,21K-F-C	
R145	RL 0,60W 2,21KOHM+-1%TK50 RESISTOR	RL 0082.2477.00	DRALORIC	SMA 0207/2,21K-F-C	
R200	TRIMMWERT / SELECTED				
R201	TRIMMWERT / SELECTED				
R202	TRIMMWERT / SELECTED				
R203 ..206	RJ 1W 2,2 OHM+-2% TK200 METALOXID RESISTOR	0520.5760.00	RESISTA	WK4 2,2OHM 2%	
R207	RL 0,65W 2,21 OHM+-1%TK50 METAL FILM RESISTOR	0006.1709.00	RESISTA	MK4 2,21 OHM 1% TK50	
R208	RL 0,65W 2,21 OHM+-1%TK50 METAL FILM RESISTOR	0006.1709.00	RESISTA	MK4 2,21 OHM 1% TK50	
R209	RJ 4,0W 100OHM+-2% 0922 METAL OXID RESISTOR	0680.9528.00	DRALORIC	SXA 0922 100OHM 2%	
R210	RJ 4,0W 100OHM+-2% 0922 METAL OXID RESISTOR	0680.9528.00	DRALORIC	SXA 0922 100OHM 2%	
R211	RL 1W 221 OHM+-1%TK100 METAL FILM RESISTOR	RL 0006.4866.00	ROEDERSTEI	MK 5	
R212	RL 0,60W 332 OHM+-1%TK50 RESISTOR	RL 0083.0255.00	DRALORIC	SMA0207/332OHM-F-D	
R213	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R214	RL 0,60W 33,2KOHM+-1%TK50 RESISTOR	RL 0083.1674.00	DRALORIC	SMA0207/33,2K-F-C	
R240	RL 0,60W 100 OHM+-1%TK50 RESISTOR	RL 0082.6543.00	DRALORIC	SMA0207/100/HM-F-D	
R241	RL 0,60W 100 OHM+-1%TK50 RESISTOR	RL 0082.6543.00	DRALORIC	SMA0207/100/HM-F-D	
R242	RS 0,25W 5KOHM+-5% SQUARE SQUARE-POTENTIOMETER	0646.7190.00	VISHAY	1240 W 5KOHM 5%	
R243	RS 0,25W 5KOHM+-5% SQUARE SQUARE-POTENTIOMETER	0646.7190.00	VISHAY	1240 W 5KOHM 5%	
R244	RL 0,60W 2,21KOHM+-1%TK50 RESISTOR	RL 0082.2477.00	DRALORIC	SMA 0207/2,21K-F-C	
R245	RL 0,60W 2,21KOHM+-1%TK50 RESISTOR	RL 0082.2477.00	DRALORIC	SMA 0207/2,21K-F-C	
R300	TRIMMWERT / SELECTED				
R301	TRIMMWERT / SELECTED				
R302	TRIMMWERT / SELECTED				
R303 ..306	RJ 1W 2,2 OHM+-2% TK200 METALOXID RESISTOR	0520.5760.00	RESISTA	WK4 2,2OHM 2%	
R307	RL 0,65W 2,21 OHM+-1%TK50 METAL FILM RESISTOR	0006.1709.00	RESISTA	MK4 2,21 OHM 1% TK50	
R308	RL 0,65W 2,21 OHM+-1%TK50 METAL FILM RESISTOR	0006.1709.00	RESISTA	MK4 2,21 OHM 1% TK50	
R309	RJ 4,0W 100OHM+-2% 0922 METAL OXID RESISTOR	0680.9528.00	DRALORIC	SXA 0922 100OHM 2%	
R310	RJ 4,0W 100OHM+-2% 0922 METAL OXID RESISTOR	0680.9528.00	DRALORIC	SXA 0922 100OHM 2%	
R311	RL 1W 221 OHM+-1%TK100 METAL FILM RESISTOR	RL 0006.4866.00	ROEDERSTEI	MK 5	
R312	RL 0,60W 332 OHM+-1%TK50 RESISTOR	RL 0083.0255.00	DRALORIC	SMA0207/332OHM-F-D	
R313	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R314	RL 0,60W 33,2KOHM+-1%TK50 RESISTOR	RL 0083.1674.00	DRALORIC	SMA0207/33,2K-F-C	
R340	RL 0,60W 100 OHM+-1%TK50 RESISTOR	RL 0082.6543.00	DRALORIC	SMA0207/100/HM-F-D	
R341	RL 0,60W 100 OHM+-1%TK50 RESISTOR	RL 0082.6543.00	DRALORIC	SMA0207/100/HM-F-D	
R342	RS 0,25W 5KOHM+-5% SQUARE SQUARE-POTENTIOMETER	0646.7190.00	VISHAY	1240 W 5KOHM 5%	
R343	RS 0,25W 5KOHM+-5% SQUARE SQUARE-POTENTIOMETER	0646.7190.00	VISHAY	1240 W 5KOHM 5%	
R344	RL 0,60W 2,21KOHM+-1%TK50 RESISTOR	RL 0082.2477.00	DRALORIC	SMA 0207/2,21K-F-C	
R345	RL 0,60W 2,21KOHM+-1%TK50 RESISTOR	RL 0082.2477.00	DRALORIC	SMA 0207/2,21K-F-C	
R400	TRIMMWERT / SELECTED				
R401	TRIMMWERT / SELECTED				
R402	TRIMMWERT / SELECTED				
R403 ..406	RJ 1W 2,2 OHM+-2% TK200 METALOXID RESISTOR	0520.5760.00	RESISTA	WK4 2,2OHM 2%	
R407	RL 0,65W 2,21 OHM+-1%TK50 METAL FILM RESISTOR	0006.1709.00	RESISTA	MK4 2,21 OHM 1% TK50	
R408	RL 0,65W 2,21 OHM+-1%TK50 METAL FILM RESISTOR	0006.1709.00	RESISTA	MK4 2,21 OHM 1% TK50	
R409	RJ 4,0W 100OHM+-2% 0922 METAL OXID RESISTOR	0680.9528.00	DRALORIC	SXA 0922 100OHM 2%	
R410	RJ 4,0W 100OHM+-2% 0922 METAL OXID RESISTOR	0680.9528.00	DRALORIC	SXA 0922 100OHM 2%	
R411	RL 1W 221 OHM+-1%TK100 METAL FILM RESISTOR	RL 0006.4866.00	ROEDERSTEI	MK 5	
R412	RL 0,60W 332 OHM+-1%TK50 RESISTOR	RL 0083.0255.00	DRALORIC	SMA0207/332OHM-F-D	
R413	RL 0,60W 1KOHM+-1%TK50 RESISTOR	RL 0082.2160.00	DRALORIC	SMA0207/1K-F-C	
R414	RL 0,60W 33,2KOHM+-1%TK50 RESISTOR	RL 0083.1674.00	DRALORIC	SMA0207/33,2K-F-C	
R440	RL 0,60W 100 OHM+-1%TK50 RESISTOR	RL 0082.6543.00	DRALORIC	SMA0207/100/HM-F-D	
R441	RL 0,60W 100 OHM+-1%TK50 RESISTOR	RL 0082.6543.00	DRALORIC	SMA0207/100/HM-F-D	
R442	RS 0,25W 5KOHM+-5% SQUARE SQUARE-POTENTIOMETER	0646.7190.00	VISHAY	1240 W 5KOHM 5%	
R443	RS 0,25W 5KOHM+-5% SQUARE SQUARE-POTENTIOMETER	0646.7190.00	VISHAY	1240 W 5KOHM 5%	
R444	RL 0,60W 2,21KOHM+-1%TK50 RESISTOR	RL 0082.2477.00	DRALORIC	SMA 0207/2,21K-F-C	
R445	RL 0,60W 2,21KOHM+-1%TK50 RESISTOR	RL 0082.2477.00	DRALORIC	SMA 0207/2,21K-F-C	
R520 ..526	RL 0,60W 5,62KOHM+-1%TK50 RESISTOR	RL 0082.2190.00	DRALORIC	SMA0207/5,62K-F-C	
T100	LU UEBERTRAGER TRANSFORMER	0680.6387.00			
T200	LU UEBERTRAGER TRANSFORMER	0680.6387.00			
T300	LU UEBERTRAGER TRANSFORMER	0680.6387.00			
T400	LU UEBERTRAGER TRANSFORMER	0680.6387.00			
V10	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00			
V21	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V30	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V31	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V40	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V41	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V50	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V70	AK BCY59IX N 45V 200MA TRANSISTOR	AK 0010.5163.00	PHILIPS-CO	BCY59IX	
V71	AK BCY59IX N 45V 200MA TRANSISTOR	AK 0010.5163.00	PHILIPS-CO	BCY59IX	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
V102	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00			
V140	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V141	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V202	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00			
V240	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V241	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V302	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00			
V340	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V341	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V402	AE 5082-2800 SCHOTTKY DIODE	AE 0012.9066.00			
V440	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
V441	AD 1N4448 75V UDI DIODE	AD 0012.0700.00	TEXAS INST	1N4448 GEGURTET	
X1	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR	FP 0242.3600.00	BINDER	742-11-0179-00-36	
X11	FP STECKERLEISTE 4POL. CONNECTOR 4P.	FP 1026.3055.00	J.S.T.	B4P-VH	
X11	BESTEHT AUS/CONSISTING OF 1 X FP 1026.3061 4 X FP 0815.7649				F 6058.4794.00
X31	FP STECKERLEISTE 16P.GER CONNECTOR 16 WAY	FP 0645.6761.00	SIEMENS	V23535-A1200-A162	
X32	FJ EINBAUBUCHSE SYST.BNC BNC FLANGE	FJ 0017.4304.00	ROSENBERG	51K404-200P4	
X35	FJ EINBAUBUCHSE SYST.N CONNECTOR NUR VAR/ONLY MOD: 02	FJ 0395.1377.00	SUHNER	23N-50-0-1/133	
X100	FJ EINBAUSTECKER F.GS SMB PLUG	FJ 0063.5168.00			
X101	FV FLACHSTECKER GR.6,3 FLAT-CABLE PLUG	FV 0530.5457.00	VOGT	3866A/MS-SN8	
X101	FV AMP.STECKHUELSE6,3WINK SLEEVE	FV 0019.0593.00	AMP	180430-2	F 6058.4794.00
X200	FJ EINBAUSTECKER F.GS SMB PLUG	FJ 0063.5168.00			
X201	FV FLACHSTECKER GR.6,3 FLAT-CABLE PLUG	FV 0530.5457.00	VOGT	3866A/MS-SN8	
X201	FV AMP.STECKHUELSE6,3WINK SLEEVE	FV 0019.0593.00	AMP	180430-2	F 6058.4794.00
X211	FJ EINBAUBUCHSE SYST.SMA CONNECTOR SMA NUR VAR/ONLY MOD: 03	FJ 0670.7239.00	SUHNER	22SMA-50-0-2	
X212	FJ EINBAUBUCHSE SYST.SMA CONNECTOR SMA NUR VAR/ONLY MOD: 03	FJ 0670.7239.00	SUHNER	22SMA-50-0-2	
X300	FJ EINBAUSTECKER F.GS SMB PLUG	FJ 0063.5168.00			
X301	FV FLACHSTECKER GR.6,3 FLAT-CABLE PLUG	FV 0530.5457.00	VOGT	3866A/MS-SN8	
X301	FV AMP.STECKHUELSE6,3WINK SLEEVE	FV 0019.0593.00	AMP	180430-2	F 6058.4794.00
X400	FJ EINBAUSTECKER F.GS SMB PLUG	FJ 0063.5168.00			
X401	FV FLACHSTECKER GR.6,3 FLAT-CABLE PLUG	FV 0530.5457.00	VOGT	3866A/MS-SN8	
X401	FV AMP.STECKHUELSE6,3WINK SLEEVE	FV 0019.0593.00	AMP	180430-2	F 6058.4794.00
X30A	FV FLACHSTECKER GR.6,3 FLAT-CABLE PLUG	FV 0530.5457.00	VOGT	3866A/MS-SN8	
X30C	FV FLACHSTECKER GR.6,3 FLAT-CABLE PLUG	FV 0530.5457.00	VOGT	3866A/MS-SN8	
X33A	FV FLACHSTECKER GR.6,3 FLAT-CABLE PLUG	FV 0530.5457.00	VOGT	3866A/MS-SN8	
X33C	FV FLACHSTECKER GR.6,3 FLAT-CABLE PLUG	FV 0530.5457.00	VOGT	3866A/MS-SN8	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
Z1 ..4	LD 5MHZ/20DB 10A CHOKE	LD 0453.4404.00	OXLEY	DBZ4/P/22000	

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL VAR 03 = FUER VK859C1 MIT S/E PINDIODEN- SCHALTER 625.8017.03 MOD 03 = FOR VK859C1 WITH T/R DIODE SWITCH 625.8017.03				
A1	ED OWF STEUERUNG HARM.FILTER CONTROL UNIT	680.7319.02			
A2	ED RELAISPLATTE 2 RELAYBOARD 2	680.7560.02			
A3	ED FILTER VI + VIII FILTER VI + VIII	680.7883.02			
A4	ED FILTER V + VII FILTER V + VII	680.7819.02			
A5	ED FILTER II + IV FILTER II + IV	680.7748.02			
A6	ED FILTER I + III FILTER I + III	680.7660.02			
A7	ED RELAISPLATTE 1 RELAY BOARD 1	680.7519.02			
E1	ZM LUEFTER KOMPL. BLOWER COMPLETE	680.7490			
L1	LL SPULE	680.8967			
L2	LL SPULE	680.8967			
W1	DV HF-KABEL EING. OWF RF CABLE NUR VAR/ONLY MOD: 02	680.7554			
W3	DV HF-KABEL AUSG. OWF RF CABLE	680.8009			
W4	DY FLACHBANDLEITUNG RIBBON CABLE	680.7548			
W5	DW HF-KABEL RF CABLE	680.9705			
W6	DW HF-KABEL	718.0015			
W9	DX LEITUNG OWF CABLE	680.7477			
X1	FP BUCHSENLEISTE 16POL. CONNECTOR 16POL.	FP 645.6778	PANDUIT	050A-016-435A	680.7548
X4	BESTEHT AUS/CONSISTING OF 1X FP528.6914 2X FP458.0194 1X FP418.0041				680.7490
X7	FP BUCHSENLEISTE 16POL. CONNECTOR 16POL.	FP 645.6778	PANDUIT	050A-016-435A	680.7548
X17	BESTEHT AUS/CONSISTING OF 1X FP466.9300 19X FP458.0194 1X FP418.0041				680.7477
X67	FJ EINBAUBUCHSE SYST.N PANEL JACK	FJ 080.2434	ROSENBERGE	53K404-006 P3	680.8009
X71	BESTEHT AUS/CONSISTING OF 1X FP466.9300 19" FP458.0194 1X FP418.0041				680.7477
X75	FJ EINBAUBUCHSE SYST.N PANEL JACK	FJ 080.2434	ROSENBERGE	53K404-006 P3	680.7554
					- ENDE -

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
..	ZUGEH.STROML./CIRC.DIAGR. 680.7260.01 S				
C1 ..7	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C9	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C11	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C12 ..17	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C19	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C20 ..25	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C26	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C27	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C30	CC 270PF+-2%6X9N750 CAPACITOR	CC 087.6958	DRALORIC	EDPU6X9/270/2%N750	
C31	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C32	CC 22PF+-10%200V5K1200VIE CAPACITOR	CC 084.5173	UNION CARB	CK05BX220K	
C33	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C40	CC 270PF+-2%6X9N750 CAPACITOR	CC 087.6958	DRALORIC	EDPU6X9/270/2%N750	
C42	CC 22PF+-10%200V5K1200VIE CAPACITOR	CC 084.5173	UNION CARB	CK05BX220K	
C45	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 068.4060	UNION CARB	CK05BX103K	
C46	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 068.4060	UNION CARB	CK05BX103K	
C50	CC 10NF+-10%100V5K1200VIE CERAMIC CAPACITOR	CC 068.4060	UNION CARB	CK05BX103K	
C51	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C52	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C61	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C62	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C63	CC 1 NF+- 5%100V NPO VIEL CERAMIC CAPACITOR	060.0894	ERIE	8133-100-COG-1NF-J	
C70	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C71	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C72	CE 220UF-10+50%40V12,5X20 ALUMINIUM CAPACITOR	565.9494	ROEDERST	EKR00FE322G	
D1	BL SCL4028BE BCD/DEC.DEC BCD/DECADE DECODER	086.7150	SSS	SCL4028BE	
D2	AK CA3183AE 5XN TR.ARRAY TRANSISTOR ARRAY	AK 249.8594	RCA	CA3183AE	
D3	AK CA3183AE 5XN TR.ARRAY TRANSISTOR ARRAY	AK 249.8594	RCA	CA3183AE	
L2 ..7	LD 100 UH10%8,000HM0,084A CHOKE	LD 067.3101	DELEVAN	DROSSEL1025-68	
L9	LD 0,15UH10%0,100HM1,230A CHOKE	LD 067.2763	DELEVAN	DROSSEL1025-00	
L40	LD 10 UH 10% 3R3 144 MA CHOKE	LD 026.4184	DELEVAN	DROSSEL1025-44	
L41	LD 10 UH 10% 3R3 144 MA CHOKE	LD 026.4184	DELEVAN	DROSSEL1025-44	
L51	LD 100 UH10%8,000HM0,084A CHOKE	LD 067.3101	DELEVAN	DROSSEL1025-68	
L52	LD 100 UH10%8,000HM0,084A CHOKE	LD 067.3101	DELEVAN	DROSSEL1025-68	
L70	LD 100 UH10%8,000HM0,084A CHOKE	LD 067.3101	DELEVAN	DROSSEL1025-68	
N1	BO TL074IN 4XFET OPAMP OPERATIONAL AMPLIFIER	568.7528	TEXAS INST	TL074IN	

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R1	RL 0-OHM-WIDERST. 0204 0-OHM RESISTOR	RL 069.0000	DRALORIC	OMA 0204	
R31	RL 0,35W 221 KOHM+-1%TK50 RESISTOR	RL 083.2270	DRALORIC	SMA0207/221K-F-C	
R32	RL 0,35W 221 KOHM+-1%TK50 RESISTOR	RL 083.2270	DRALORIC	SMA0207/221K-F-C	
R33	RL 0,35W 6,81KOHM+-1%TK50 RESISTOR	RL 082.2560	DRALORIC	SMA 0207/6,81K-F-C	
R34	RL 0,35W 221 KOHM+-1%TK50 RESISTOR	RL 083.2270	DRALORIC	SMA0207/221K-F-C	
R35	RL 0,35W 22,1KOHM+-1%TK50 RESISTOR	RL 083.1545	DRALORIC	SMA/207/22,1K-F-C	
R36	RL 0,35W 56,2KOHM+-1%TK50 RESISTOR	RL 082.2231	DRALORIC	SMA0207/56,2K-F-C	
R41	RL 0,35W 221 KOHM+-1%TK50 RESISTOR	RL 083.2270	DRALORIC	SMA0207/221K-F-C	
R43	RL 0,35W 22,1KOHM+-1%TK50 RESISTOR	RL 083.1545	DRALORIC	SMA/207/22,1K-F-C	
R44	RL 0,35W 221 KOHM+-1%TK50 RESISTOR	RL 083.2270	DRALORIC	SMA0207/221K-F-C	
R45	RL 0,35W 22,1KOHM+-1%TK50 RESISTOR	RL 083.1545	DRALORIC	SMA/207/22,1K-F-C	
R46	RL 0,35W 47,5KOHM+-1%TK50 RESISTOR	RL 083.1800	DRALORIC	SMA/207/47,5K-F-C	
R47	RS 0,3W 20KOHM+-10%CERMET TRIMMING POTENTIOMETER	RS 006.9151	BECKMAN	67W 20KOHM 10%	
R50	RL 0-OHM-WIDERST. 0204 0-OHM RESISTOR	RL 069.0000	DRALORIC	OMA 0204	
R60	RL 0,35W 1KOHM+-1%TK50 RESISTOR	RL 082.2160	DRALORIC	SMA0207/1K-F-C	
R61	RL 0,35W 100KOHM+-1%TK50 RESISTOR	RL 082.1764	DRALORIC	SMA0207/100K-F-C	
R62	RL 0,35W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	
R70	RL 0,35W 4,75KOHM+-1%TK50 RESISTOR	RL 083.1097	DRALORIC	SMA0207/4,75K-F-D	
R71	RL 0,35W 4,75KOHM+-1%TK50 RESISTOR	RL 083.1097	DRALORIC	SMA0207/4,75K-F-D	
R72	RL 0,35W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	
R73	RL 0,35W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	
R74	RL 0,35W 4,75KOHM+-1%TK50 RESISTOR	RL 083.1097	DRALORIC	SMA0207/4,75K-F-D	
R80	RL 0,35W 18,2KOHM+-1%TK50 RESISTOR	RL 083.1480	DRALORIC	SMA/207/18,2K-F-C	
R81	RL 0,35W 121KOHM+-1%TK50 RESISTOR	RL 083.2070	DRALORIC	SMA/207/121K-F-C	
V70	AM BUZ71 N-E 50V MOSF POWER MOSFET	645.7068	SIEMENS	BUZ71 C67078-A1316-	
V71	AE BZX79/C33 0,5W ZDI ZENER DIODE	AE 012.2632	AEG	BZX55/C33	
X1	FP INDIREKT.STECKERL.36P. PIN CONNECTOR 3-POLIG	FP 242.3600	BINDER	742-5-11-0178-00-36	
X2	FP STECKERLEISTE 16POL. CONNECTOR 16POL.	FP 645.6761	ROBINSON	IDH-16PK-SR3-TG30-S	
X4	FP STECKERLEISTE 36POL. PIN CONNECTOR 3-POLIG	FP 279.1669	BINDER	742-5-11-0201-00-36	
X7	FP STECKERLEISTE 16POL. CONNECTOR 16POL.	FP 645.6761	ROBINSON	IDH-16PK-SR3-TG30-S	
X8	FP STECKERLEISTE 36POL. PIN CONNECTOR 2X3-POLIG	FP 279.1669	BINDER	742-5-11-0201-00-36	
X10	FP KURZSCHLUSSBUCHSE SHORTING PLUG	FP 491.7042	PK	452-70302	
X71	FP STECKERLEISTE 36POL. PIN CONNECTOR 2X10 -POLIG	FP 279.1669	BINDER	742-5-11-0201-00-36	
X782	FP STECKERLEISTE 36POL. PIN CONNECTOR 2X5-POLIG	FP 279.1669	BINDER	742-5-11-0201-00-36	
					- ENDE -

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL				
..	ZUGEH.STROML./CIRC.DIAGR. 680.7260.01 S				
C801	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C802	CC 15PF+- 5%100V NPO VIEL CERAMIC CAPACITOR	CC 060.0671	UNIONCARB	C052C150J2G1CA	
C803	CC 220PF+-5% 200V PELL CAPACITOR	CC 556.8624	ATC	ATC100B221J-P200	
C804	CT 30 PF N750 STEH.ABGL. DISC TRIMMER	CT 025.7050	STETTNER	10S-TRIK021-10/40N75	
C805	CT 30 PF N750 STEH.ABGL. DISC TRIMMER	CT 025.7050	STETTNER	10S-TRIK021-10/40N75	
C806	CC 220PF+-5% 200V PELL CAPACITOR	CC 556.8624	ATC	ATC100B221J-P200	
C807 ..810	CC 12PF+-1% 1000V PELL CHIP CAPACITOR	586.8400	TEKELEC	"HQ"102CHB120-FW-	
L801	LD SPULE COIL	680.7648			
L803	LD SPULE COIL	680.7648			
R801	RL 1W 22,1 OHM+-1%TK100 METAL FILM RESISTOR	RL 006.3682	ROEDERSTEI	MK 5	
R802	RL 1W 22,1 OHM+-1%TK100 METAL FILM RESISTOR	RL 006.3682	ROEDERSTEI	MK 5	
V801	AE 5082-2800 SCHOTTKY DIODE	AE 012.9066	HEWLETT-P.	5082-2800	
V802	AE 5082-2800 SCHOTTKY DIODE	AE 012.9066	HEWLETT-P.	5082-2800	
V803	AE 5082-2800 SCHOTTKY DIODE	AE 012.9066	HEWLETT-P.	5082-2800	
					- ENDE -

Kennz. Comp.No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL					
..	ZUGEH.STROML./CIRC.DIAGR. 680.7260.01 S					
C701 ..708	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC	084.5350	UNION CARB	CK05BX104K	
C709	CC 10PF+-10%1KV N750/1B 5 HIGHVOLTAGE CAPACITOR		520.5925	DRALORIC	SPDU 5 1KV-10PF+-10%	
K701 ..708	SN 24V 1MAL21 AG RELAY 24V		680.9657	HENGSTLER	HDE-03545/22-1109-	
L700	LD SPULE		718.1111			
V701 ..708	AE BZX79/C39 0,5W ZDI ZENER DIODE	AE	246.3740	VALVO	BZX79/C39	
X1	FP STECKERLEISTE 16POL. CONNECTOR 16POL.	FP	645.6761	ROBINSON	IDH-16PK-SR3-TG30-S	
						- ENDE -

ROHDE&SCHWARZ	ÄZ 04	Datum Date 0386	Schaltteilliste für Parts list for ED RELAISPLATTE 2 RELAYBOARD 2	Sachnummer Stock No. 680.7560.01 SA	Blatt Page 1

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL		
..	ZUGEH.STROML./CIRC.DIAGR. 680.7260.01 S		
A8	ED RICHTKOPPLER DIRECTIONAL COUPLER	680.7590.02	
C201 BIS/TO C208	CC 100NF+-10%50V5K1200VIE CAPACITOR UNION CARB CK05BX104K	CC 084.5350	
C209	CC 15PF+- 5%100V NPO VIEL CERAMIC CAPACITOR UNIONCARB C052C150J2G1CA	CC 060.0671	
K201 BIS/TO K208	SN 24V 1MAL21 AG RELAY 24V HENGSTLER HDE-03545/22-1109-.	680.9657	
L201	LD SPULE COIL	680.7631	
V201 BIS/TO V208	AE BZX79/C39 0,5W Z-DI ZENER DIODE VALVO BZX79/C39	AE 246.3740	
W200	DX KABEL CABLE	680.7625	
W201	DX FLACHBANDLEITUNG RIBBON CABLE	680.7583	
W202	DX HF-KABEL RF CABLE	680.9734	
W203	DX HF-KABEL RF CABLE	680.9728	
X2	FP BUCHENLEISTE 16POL. CONNECTOR 16POL. PANDUIT 050A-016-435A	FP 645.6778	680.7583
X8	BESTEHT AUS/CONSISTING OF 1X 680.7654 4X 458.0194 1X 418.0041		680.9692.01
			- ENDE -

ROHDE&SCHWARZ	ÄZ	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt Page
	02	0785	ED FILTER I + III	680.7660.01 SA	1

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL		
..	ZUGEH.STROML./CIRC.DIAGR. 680.7260.01 S		
C601	CG 214PF+-5% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 214PF+-5%1000VE	520.5531	
C602	CG 323PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 323PF+-2%1000VE	520.5590	
C603	CG 352PF+-5% 1KV TK70 H10 MICA CAPACITOR STC COMPOM CS12 352PF+-5%1000VE	520.5602	
C604	CG 390PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 390PF+-2%1000VE	520.5625	
C605	CG 352PF+-5% 1KV TK70 H10 MICA CAPACITOR STC COMPOM CS12 352PF+-5%1000VE	520.5602	
C606	CG 390PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 390PF+-2%1000VE	520.5625	
C607	CG 82PF+-2% 1KV TK700 H10 MICA CAPACITOR STC COMPON CS12 82PF+-2%1000VEF	520.5377	
C608	CG 390PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 390PF+-2%1000VE	520.5625	
C609	CG 390PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 390PF+-2%1000VE	520.5625	
C621	CG 470PF+-2% 500V TK70410 MICA CAPACITOR STC COMPON CS12 470PF+-2% 500VE	520.5648	
C622	CG 690PF+-2% 500V TK70H10 MICA CAPACITOR STC COMPON CS12 690PF+-2% 500VE	520.5683	
C623	CG 752PF+-5% 500V TK70H10 MICA CAPACITOR STC COMPON CS12 752PF+-5% 500VE	520.5690	
C624	CG 833PF+-2% 500V TK70H10 MICA CAPACITOR STC COMPON CS12 833PF+-2% 500VE	520.5719	
C625	CG 752PF+-5% 500V TK70H10 MICA CAPACITOR STC COMPON CS12 752PF+-5% 500VE	520.5690	
C626	CG 833PF+-2% 500V TK70H10 MICA CAPACITOR STC COMPON CS12 833PF+-2% 500VE	520.5719	
C627	CG 174PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 174PF+-2%1000VE	520.5502	

ROHDE&SCHWARZ	ÄZ	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt Page
	02	0785	ED FILTER I + III	680.7660.01 SA	2

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
C628	CG 833PF+-2% 500V TK70H10 MICA CAPACITOR STC COMPON CS12 833PF+-2% 500VE	520.5719	
C629	CG 833PF+-2% 500V TK70H10 MICA CAPACITOR STC COMPON CS12 833PF+-2% 500VE	520.5719	
L601	LD RINGK.SPULE 7WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7754	680.7754	
L602	LD RINK.SPULE 8WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7760	680.7760	
L603	LD RINGK.SPULE 8WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7777	680.7777	
L604	LD RINGK.SPULE 10WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7719	680.7719	
L605	LD RINGK.SPULE 14WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7725	680.7725	
L606	LD RINGK.SPULE 14WDG.RD65 COIL TALEMA N.R&S-ZCHNG.680.7731	680.7731	
			- ENDE -

ROHDE&SCHWARZ	ÄZ	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt Page
	02	0785	ED FILTER II + IV	680.7748.01 SA	1

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
•	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL		
••	ZUGEH.STROML./CIRC.DIAGR. 680.7260.01 S		
C501	CG 154PF+-2% 1KV TK70 H10 STC COMPON CS12 154PF+-2%100DVE	520.5483	
C502	CG 225PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 225PF+-2%100DVE	520.5548	
C503	CG 244PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 244PF+-2%100DVE	520.5554	
C504	CG 272PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 272PF+-2%100DVE	520.5577	
C505	CG 244PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 244PF+-2%100DVE	520.5554	
C506	CG 272PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 272PF+-2%100DVE	520.5577	
C507	CG 57PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPOM CS12 57PF+-2% 100DVE	520.5319	
C508	CG 272PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 272PF+-2%100DVE	520.5577	
C509	CG 272PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 272PF+-2%100DVE	520.5577	
C521	CG 311PF+-5% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 311PF+-5%100DVE	520.5583	
C522	CG 470PF+-2% 500V TK70410 MICA CAPACITOR STC COMPON CS12 470PF+-2% 50DVE	520.5648	
C523	CG 512PF+-5% 500V TK70H10 MICA CAPACITOR STC COMPON CS12 512PF+-5% 50DVE	520.5654	
C524	CG 567PF+-2% 500V TK70H10 MICA CAPACITOR STC COMPON CS12.567PF+-2% 50DVE	520.5677	
C525	CG 512PF+-5% 500V TK70H10 MICA CAPACITOR STC COMPON CS12 512PF+-5% 50DVE	520.5654	
C526	CG 567PF+-2% 500V TK70H10 MICA CAPACITOR STC COMPON CS12 567PF+-2% 50DVE	520.5677	
C527	CG 119PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 119PF+-2%100DVE	520.5448	
C528	CG 567PF+-2% 500V TK70H10 MICA CAPACITOR STC COMPON CS12 567PF+-2% 50DVE	520.5677	

Kennzeichen / Component No.	Benennung/Beschreibung / Designation	Sachnummer / Stock No.	enthalten in / contained in
C529	CG 567PF+-2% 500V TK70H10 MICA CAPACITOR STC COMPON CS12 567PF+-2% 500VE	520.5677	
L501	LD RINGK.SPULE 5WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7783	680.7783	
L502	LD RINGK.SPULE 6WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7790	680.7790	
L503	LD RINGK.SPULE 7WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7802	680.7802	
L504	LD RINGK.SPULE 9 WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7683	680.7683	
L505	LD RINGK.SPULE 9WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7690	680.7690	
L506	LD RINGK.SPULE 10WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7702	680.7702	
			- ENDE -

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
.	VARIANTENERKL. / VERSIONS		
	VAR 02 = GRUNDAUSFUEHRUNG		
	MOD 02 = BASIC MODEL		
..	ZUGEH.STROML./CIRC.DIAGR.		
	680.7260.01 S		
C401	CG 106PF+-2% 1KV TK70 H10	520.5425	
	MICA CAPACITOR		
	STC COMON CS12 106PF+-2% 1000V		
C402	CG 154PF+-2% 1KV TK70 H10	520.5483	
	STC COMPON CS12 154PF+-2%1000VE		
C403	CG 167PF+-5% 1KV TK70 H10	520.5490	
	MICA CAPACITOR		
	STC COMPON CS12 167PF+-5%1000VE		
C404	CG 186PF+-2% 1KV TK70 H10	520.5525	
	MICA CAPACITOR		
	STC COMPON CS12 186PF+-2%1000VE		
C405	CG 167PF+-5% 1KV TK70 H10	520.5490	
	MICA CAPACITOR		
	STC COMPON CS12 167PF+-5%1000VE		
C406	CG 186PF+-2% 1KV TK70 H10	520.5525	
	MICA CAPACITOR		
	STC COMPON CS12 186PF+-2%1000VE		
C407	CG 39PF+-1PF 1KV TK70 H10	520.5254	
	MICA CAPACITOR		
	STC COMPON CS12 39PF+-1PF1000VE		
C408	CG 186PF+-2% 1KV TK70 H10	520.5525	
	MICA CAPACITOR		
	STC COMPON CS12 186PF+-2%1000VE		
C409	CG 186PF+-2% 1KV TK70 H10	520.5525	
	MICA CAPACITOR		
	STC COMPON CS12 186PF+-2%1000VE		
C421	CG 46PF+-5% 1KV TK70 H10	520.5260	
	MICA CAPACITOR		
	STC COMPON CS12 46PF+-5%1000VEF		
C422	CG 73PF+-2% 1KV TK70 H10	520.5354	
	MICA CAPACITOR		
	STC COMPON CS12 73PF+-2%1000VEF		
C423	CG 78PF+-5% 1KV TK70 H10	520.5360	
	MICA CAPACITOR		
	STC COMPON CS12 78PF+-5%1000VEF		
C424	CG 88PF+-2% 1KV TK70 H10	520.5402	
	MICA CAPACITOR		
	STC COMPON CS12 88PF+-2% 1000VE		
C425	CG 78PF+-5% 1KV TK70 H10	520.5360	
	MICA CAPACITOR		
	STC COMPON CS12 78PF+-5%1000VEF		
C426	CG 86PF+-2% 1KV TK70 H10	520.5390	
	MICA CAPACITOR		
	STC COMPON CS12 86PF+-2%1000VEF		
C427	CG 18,5PF+-1PF 1KV TK70	520.5231	
	MICA CAPACITOR		
	STC COMPOM CS12 18,5PF+-1PF1000		
C428	CG 86PF+-2% 1KV TK70 H10	520.5390	
	MICA CAPACITOR		
	STC COMPON CS12 86PF+-2%1000VEF		

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
C429	CG 82PF+-2% 1KV TK700 H10 MICA CAPACITOR STC COMPON CS12 82PF+-2%1000VEF	520.5377	
L401	LD RINGK.SPULE 4WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7825	680.7825	
L402	LD RINGK.SPULE 4WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7831	680.7831	
L403	LD RINGK.SPULE 5WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7848	680.7848	
L404	LD RINGK.SPULE 2WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7854	680.7854	
L405	LL SPULE COIL	680.7860	
L406	LD RINGK.SPULE 3WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7877	680.7877	
			- ENDE -

ROHDE&SCHWARZ	ÄZ	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt Page
	01	0485	ED FILTER VI + VIII	680.7883.01 SA	1

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
•	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL		
••	ZUGEH.STROML./CIRC.DIAGR. 680.7260.01 S		
C301	CG 73PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 73PF+-2%1000VEF	520.5354	
C302	CG 106PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMON CS12 106PF+-2% 1000V	520.5425	
C303	CG 114PF+-5% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 114PF+-5% 1000V	520.5431	
C304	CG 129PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 129PF+-2%1000VE	520.5460	
C305	CG 114PF+-5% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 114PF+-5% 1000V	520.5431	
C306	CG 129PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 129PF+-2%1000VE	520.5460	
C307	CG 27PF+-1PF 1KVTK70 H10 MICA CAPACITOR STC COMPOM CS12 27PF+-1PF1000VE	520.5248	
C308	CG 129PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 129PF+-2%1000VE	520.5460	
C309	CG 129PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 129PF+-2%1000VE	520.5460	
C321	CG 50PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 50PF+-2%1000VEF	520.5283	
C322	CG 50PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 50PF+-2%1000VEF	520.5283	
C323	CG 53PF+-5% 1KV TK70 H10 MICA CAPACITOR STC COMPOM CS12 53PF+-5% 1000VE	520.5290	
C324	CG 61PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 61PF+-2%1000VEF	520.5331	
C325	CG 53PF+-5% 1KV TK70 H10 MICA CAPACITOR STC COMPOM CS12 53PF+-5% 1000VE	520.5290	
C326	CG 61PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 61PF+-2%1000VEF	520.5331	
C327	CG 13PF+-1PF 1KV TK70 H10 MICA CAPACITOR STC COMPOM CS1213PF+-1PF 1000VE	520.5225	

ROHDE&SCHWARZ	ÄZ 01	Datum / Date 0485	Schaltteilliste für / Parts list for ED FILTER VI + VIII	Sachnummer / Stock No. 680.7883.01 SA	Blatt / Page 2

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
C328	CG 61PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPON CS12 61PF+-2%1000VEF	520.5331	
C329	CG 57PF+-2% 1KV TK70 H10 MICA CAPACITOR STC COMPOM CS12 57PF+-2% 1000VE	520.5319	
L301	LD RINGK.SPULE BWDG.RD65 COIL TLE R&S-ZCHNG.680.7890	680.7890	
L302	LD RINGK.SPULE 4WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7902	680.7902	
L303	LD RINGK.SPULE 4WDG.RD65 COIL TALEMA R&S-ZCHNG.680.7919	680.7919	
L304	LL SPULE COIL	680.7925	
L305	LL SPULE COIL	680.7931	
L306	LL SPULE COIL	680.7948	
			- ENDE -

ROHDE&SCHWARZ	ÄZ	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt Page
	02	0685	ZE S/E RELAIS T/R RELAY BOARD	680.9011.01 SA	1

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
•	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL		
A81	ED S/E RELAISPLATTE	680.9028.02	
			- ENDE -

ÄI	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt Page
09	0487	ED S/E RELAISPLATTE T/R RELAY BOARD	680.9028.01 SA	1

ROHDE&SCHWARZ

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
.	ZUGEH.STROML./CIRC.DIAGR. 680.9011.01 S		
..	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL		
C1	CC 100NF+-10%50V5K1200VIE CAPACITOR UNION CARB CK05BX104K	CC 084.5350	
C2	CC 4,7NF+-10%100V5K1200VI CERAMIC CAPACITOR UNION CARB CK05BX472K	CC 068.4053	
C3	CC 100NF+-10%50V5K1200VIE CAPACITOR UNION CARB CK05BX104K	CC 084.5350	
C4	CC 100NF+-10%50V5K1200VIE CAPACITOR UNION CARB CK05BX104K	CC 084.5350	
C5	CC 4,7NF+-10%100V5K1200VI CERAMIC CAPACITOR UNION CARB CK05BX472K	CC 068.4053	
C7	CC 150NF+-10%100V K1200VI CAPACITOR UNION CARB CK06BX154K	CC 060.1161	
C8	CC 4,7PF+-0,5PF1KV/N470 CERAMIC CAPACITORS DRALORIC SDPU5 1KV-4,7PF+-0,5	680.4378	
D1	BL MC14538BAL 2X MONOFLOP MONOSTABLE MULTIVIBRATOR MOTOROLA MC14538BAL	BL 526.5427	
K1	SN 12V 2XUM 4A 180 OHM RELAY HENGSTLER HDE03546/22-1113-	520.5819	
K2	SN GEPOLT 2XU 12V RELAY SDS DS2E-DC12V	645.6810	
R1	RL 1W 100 OHM+-1%TK100 METAL FILM RESISTOR RESISTA MK5 100OHM 1%TK100	RL 006.3760	
R2	RL 0,35W 22,1KOHM+-1%TK50 RESISTOR DRALORIC SMA/207/22,1K-F-C	RL 083.1545	
R3	RL 1W 475 OHM+-1%TK100 METAL FILM RESISTOR RESISTA MK5 475OHM1%TK100	RL 006.4908	
R4	RL 0,35W 22,1KOHM+-1%TK50 RESISTOR DRALORIC SMA/207/22,1K-F-C	RL 083.1545	
R5	RL 0,35W 56,2KOHM+-1%TK50 RESISTOR DRALORIC SMA0207/56,2K-F-C	RL 082.2231	

Kennzeichen Component No.	Benennung/Beschreibung Designation	Sachnummer Stock No.	enthalten in contained in
R6	RL 0,35W 1MOHM+-1%TK50 RESISTOR DRALORIC SMA0207/1M-F-D	RL 082.7862	
R10	RL 1W 121 OHM+-1%TK100 METAL FILM RESISTOR RESISTA MK5 121 OHM 1% TK100	RL 006.3776	
V1	AE BZX85/C110 1,3W Z-DI ZENER DIODE THOMSON BZX85/C110	AE 092.8478	
V2	AM BSS89 NKAN200V MOSF FET SIEMENS BSS89	651.7666	
V3	AE BZX79/C47 0,5W Z-DI ZENER DIODE VALVO BZX79/C47	AE 514.2063	
V4	AM BSS89 NKAN200V MOSF FET SIEMENS BSS89	651.7666	
W1	DX HF-KABEL EMPF.	680.9257	
W5	DX HF-KABEL RF CABLE	680.9205	
W10	ZM WINKEL KOMPL.	680.9170	
X81	FJ KABELEINBAUBUCHSE SMA CONNECTOR SUHNER 24SMA-50-3-15	FJ 099.5497	680.9257
X782	BESTEHT AUS/CONSISTING OF 1X FP499.6600 8X FP458.0194 1X FP418.0041		680.9170
X862	BESTEHT AUS/CONSISTING OF 1X FP499.6600 8X FP458.0194 1X FP418.0041		680.9170
F X862	FP STECKERLEISTE 36POL. PIN CONNECTOR BERG 75160-115-36 2X5-POLIG	FP 279.1669	

- ENDE -

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.		Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C1 ..8	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC	007.5237	VITRAMON	VJ1206 Y 104 K AT	
C9	CC 150NF+-10%50V X7R 1210 CERAMIC CHIP CAPACITOR	CC	007.7446	VITRAMON	VJ1210Y154KFAT	
C10	CC 4,7NF+-10%50VX7R 1206 CERAMIC CHIP CAPACITOR	CC	099.8450	VITRAMON	VJ1206 Y 472 K AT	
C11	CC 4,7NF+-10%50VX7R 1206 CERAMIC CHIP CAPACITOR	CC	099.8450	VITRAMON	VJ1206 Y 472 K AT	
D1	BL MC14538BAL 2X MONOFLOP MONOSTABLE MULTIVIBRATOR		526.5427	MOTOROLA	MC14538BAL	
K1	SR 24V 1XA M.HF-KONTAKT REED RELAY		645.8012	ELFEIN	806-101-402	
K2	SR 24V 1XA M.HF-KONTAKT REED RELAY		645.8012	ELFEIN	806-101-402	
K3	SN 12V 1XU MONOSTABIL AU RELAY		379.6710	SDS	R&S-ZCHNG.379.6710	
K4	SR 24V 1MAL2 REED RELAY		645.6803	ELFEIN	806-1R57-24V BV762	
R1	RG 1,0MOHM+-1%TK100 1206 CHIP RESISTOR	RG	815.7532	DALE	CRCW1206-10 1M F-T	
R2	RG 22,1KOHM+-1%TK100 1206 RESISTOR CHIP	RG	007.5872	DALE	CRCW1206-10 22K1 F-T	
R3	RG 22,1KOHM+-1%TK100 1206 RESISTOR CHIP	RG	007.5872	DALE	CRCW1206-10 22K1 F-T	
R4	RG 27,4KOHM+-1%TK100 1206 RESISTOR CHIP	RG	007.5895	DALE	CRCW1206-10 27K4 F-T	
R5	RL 0,60W 681 OHM+-1%TK50 RESISTOR	RL	083.0490	DRALORIC	SMA0207/681OHM-F-D	
V1	AE BZX79B33 2% 0.5W ZDI ZENER	AE	008.7640	PHILIPS	BZX79B33	
V2	AE BZX79B33 2% 0.5W ZDI ZENER	AE	008.7640	PHILIPS	BZX79B33	
V3	AM BSS89 N-E200V MOSF FET		651.7666	SIEMENS	BSS89(Q62702-S455)	
V4	AM BSS89 N-E200V MOSF FET		651.7666	SIEMENS	BSS89(Q62702-S455)	
W1	DW HF-KABEL EMPF.		680.9257			
W5	DV HF-KABEL RF CABLE		680.9205			
W10	ZM WINKEL KOMPL.		680.9170			
X1 ..5	VL LOETOESE 8,5 X 1,4 SOLDER LUG		455.9390	VOGT&CO	R&S-ZCHNG.455.9390	
X81	FJ KABELEINBAUBUCHSE SMA CONNECTOR	FJ	099.5497	SUHNER	24 SMA-50-3-15	680.9257
X782	BESTEHT AUS/CONSISTING OF 1X FP499.6600 8X FP458.0194 1X FP418.0041					680.9170
X862	BESTEHT AUS/CONSISTING OF 1X FP499.6600 8X FP458.0194 1X FP418.0041					680.9170
X86A	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 5-POLIG/5 PINS	FP	279.1669	BINDER	742-5-11-0201-00-36	
X86B	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 5-POLIG/5 PINS	FP	279.1669	BINDER	742-5-11-0201-00-36	
						- ENDE -

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL VAR 20 = FUER EINBAU IN VK859C1 MOD 20 = FOR INSTALLATION IN VK859C1				
..	ZUGEH.STROML./CIRC.DIAGR. 718.2301.01 S				
A11.1	ED -12V SIEBUNG/-12VFILT.	718.1486.02			
A11.2	ED 28V SIEBUNG/28VFILTER	718.1463.02			
C1	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C2	CC 330PF+- 5%100V NPO VIE CERAMIC CAPACITOR	CC 060.0836	UNIONCARB	C052C331J2G1CA	
C3	CC 4,7PF+-0,5PF1KV/N470 CERAMIC CAPACITORS	680.4378	DRALORIC	SDPU5 1KV-4,7PF+-0,5	
C4	CG 17NF+-10% 1000V MICA CAPACITOR	718.1257	BMC	17NF/1000V/AG-300	
C5 ..10	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C11	CC 10NF+50-20%HDK6000RD19 CERAMIC CAPACITOR	022.0710	RESISTA	QBX619/10NF/2KV	
C12	CC 10NF+50-20%HDK6000RD19 CERAMIC CAPACITOR	022.0710	RESISTA	QBX619/10NF/2KV	
C13	CC 10NF+50-20%HDK6000RD19 CERAMIC CAPACITOR	022.0710	RESISTA	QBX619/10NF/2KV	
C14	CC 10NF+50-20%HDK6000RD19 CERAMIC CAPACITOR	022.0710	RESISTA	QBX619/10NF/2KV	
C15	CC 10NF+50-20%HDK6000RD19 CERAMIC CAPACITOR	022.0710	RESISTA	QBX619/10NF/2KV	
C16	CC 10NF+50-20%HDK6000RD19 CERAMIC CAPACITOR	022.0710	RESISTA	QBX619/10NF/2KV	
C17	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C18	CC 10PF+-10%1KV N750/1B 5 HIGHVOLTAGE CAPACITOR	520.5925	DRALORIC	SPDU 5 1KV-10PF+-10%	
C20	CC 1UF+-10%50V7K1200VIEL CAPACITOR	084.5538	UNION CARB	CK06BX105K	
C21	CC 1UF+-10%50V7K1200VIEL CAPACITOR	084.5538	UNION CARB	CK06BX105K	
C22 ..25	CE 220UF-10+50%40V12,5X20 ALUMINIUM CAPACITOR	565.9494	ROEDERST	EKR00FE322G	
C26	CC 1UF+-10%50V7K1200VIEL CAPACITOR	084.5538	UNION CARB	CK06BX105K	
C27	CE 220UF-10+50%40V12,5X20 ALUMINIUM CAPACITOR	565.9494	ROEDERST	EKR00FE322G	
C28	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 068.4047	UNION CARB	CK05BX102K	
C29	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C30	CC 1UF+-10%50V7K1200VIEL CAPACITOR	084.5538	UNION CARB	CK06BX105K	
C31	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 068.4047	UNION CARB	CK05BX102K	
C32	CE 220UF-10+50%40V12,5X20 ALUMINIUM CAPACITOR	565.9494	ROEDERST	EKR00FE322G	
C33	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C34	CE 220UF-10+50%40V12,5X20 ALUMINIUM CAPACITOR	565.9494	ROEDERST	EKR00FE322G	
C35	CK 100NF+-5%400V RM15 CAPACITOR	520.6615	SIEMENS	B32650-K4104-J	
C36	CK 100NF+-5%400V RM15 CAPACITOR	520.6615	SIEMENS	B32650-K4104-J	
C37	CK 100NF+-5%400V RM15 CAPACITOR	520.6615	SIEMENS	B32650-K4104-J	
C38	CK 100NF+-5%400V RM15 CAPACITOR	520.6615	SIEMENS	B32650-K4104-J	
C39	CK 100NF+-5%400V RM15 CAPACITOR	520.6615	SIEMENS	B32650-K4104-J	
C40	CK 100NF+-5%400V RM15 CAPACITOR	520.6615	SIEMENS	B32650-K4104-J	
C41	CK 330NF+-5%1KV RM27,5 CAPACITOR	520.6609	SIEMENS	B32650-K334-J	

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C42	CK 330NF+-5%1KV RM27,5 CAPACITOR	520.6609	SIEMENS	B32650-K334-J	
C45	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C46	CC 100PF+-2%6X9NPO CAPACITOR	CC 087.6541	VALVO	2222 678 10101	
C47	CC 1UF+-10%50V7K1200VIEL CAPACITOR	084.5538	UNION CARB	CK06BX105K	
C48	CC 820PF+-10%4X5R2000 CAPACITOR	CC 087.7025	VALVO	2222 63051 821	
C49	CK 1UF+-10%50V5RM MKT CAPACITOR	CK 099.2998	WIMA	MKS2/50/1UF/10%	
C50	CE 22 UF+-20%16V 7X 5X11 ELECTROLYTIC CAPACITOR	CE 022.8091	ROEDERSTEI	ETR 3 22/16 20%	
C68	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C69	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
D1	BL CD4069UBF 6XINVERTER HEXINVERTER	514.4589	RCA	CD4069UBF	
D2	BL MM74HC109N 2XJK-FF CL DUAL J-K FLIPFLOP	BL 099.9840	NSC	MM74HC109N	
D3	BJ TSC426IJA 2XTTL/MOS-LC DUAL LEVEL CONVERTER	586.8622	TELEDYNE	TSC426IJA	
D4	BL CD4023BE 3X3IN.NANDG NAND GATE	086.7109	RCA	CD4023BE	
L1	LD SPULE	718.1111			
L2	LD SPULE	718.1111			
L3	LD 100UH 20% 1A 0,650OHM CHOKE	LD 155.9446	SIEMENS	B82111-E-C25	
L4	LD 100UH 20% 1A 0,650OHM CHOKE	LD 155.9446	SIEMENS	B82111-E-C25	
L5	LD 100UH 20% 1A 0,650OHM CHOKE	LD 155.9446	SIEMENS	B82111-E-C25	
L6	LD 25UH 3A 0,046OHM CHOKE	LD 026.4849	SIEMENS	B82111-B-C24	
L7	LD SPEICHERDROSSEL 2,5A CHOKE	303.9501	VAC	ZKB 461/099-02-H2	
L8	LD 15UH 4A 0,024OHM CHOKE	LD 026.4832	SIEMENS	B82111-B-C23	
L10	LD 47,0UH10%4,500HM0,110A CHOKE	LD 067.3060	DELEVAN	DROSSEL1025-60	
N1	BO TL074IN 4XFET OPAMP OPERATIONAL AMPLIFIER	568.7528	TEXAS INST	TL074IN	
N2	BO UA78M12H+12V0A5 VREGL VOLTAGE REGULATOR	580.9362	FAIRCHILD	UA78M12HM	
N3	BO SG1524BJ 0A1 SCH.REGL REG.PULSE WIDTH MODULATOR	BO 099.8580	SILICON GE	SG1524BJ	
R1	ZE HOCHSPG.SUBSTR.WIDERST	718.1305			
R2	RL 0,35W 7,50KOHM+-1%TK50 RESISTOR	RL 083.1197	DRALORIC	SMA0207/7,5K-F-D	
R3	RL 0,35W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	
R4	RL 0,21W 150 KOHM+-1%TK50 RESISTOR	RL 092.1709	RESISTA	MK1 150K 1% TK50	
R5	RL 0,21W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R6	RL 0,21W 100 OHM+-1%TK50 DEPOS.-CARBON RESISTOR	RL 092.1321	RESISTA	MK1 100OHM 1% TK50	
R7	RL 0,35W 20,0KOHM+-1%TK50 RESISTOR	RL 083.1522	DRALORIC	SMA/207/20K-F-C	
R8	RL 0,21W 22,1KOHM+-1%TK50 RESISTOR	RL 092.1609	RESISTA	MK1 22K1 1% TK50	
R9	RL 0,21W 22,1KOHM+-1%TK50 RESISTOR	RL 092.1609	RESISTA	MK1 22K1 1% TK50	
R10	RL 0,21W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R11	RL 0,21W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R12	RD 2.4 W 1,8 OHM +-3% WIRE WOUND RESISTOR	RD 067.9280	SAGE	1200S/1,8OHM/3%	
R13	RL 0,21W 150 KOHM+-1%TK50 RESISTOR	RL 092.1709	RESISTA	MK1 150K 1% TK50	

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R14	RL 0,21W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R15	RL 0,21W 100 OHM+-1%TK50 DEPOS.-CARBON RESISTOR	RL 092.1321	RESISTA	MK1 100OHM 1% TK50	
R16	RL 0,35W 20,0KOHM+-1%TK50 RESISTOR	RL 083.1522	DRALORIC	SMA/207/20K-F-C	
R17	RL 0,21W 22,1KOHM+-1%TK50 RESISTOR	RL 092.1609	RESISTA	MK1 22K1 1% TK50	
R18	RL 0,21W 22,1KOHM+-1%TK50 RESISTOR	RL 092.1609	RESISTA	MK1 22K1 1% TK50	
R19	RL 0,21W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R20	RL 0,21W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R21	RD 2.4W 2,2 OHM+-3% WIRE-WOUND RESISTOR	RD 087.5068	SAGE	1200S2,2K+3%	
R22	RL 0,35W3,32 OHM+-1%TK50 METALFILMRESISTOR	RL 099.7983	RESISTA	MK2 3,32 OHM 1% TK50	
R28	RL 0,35W 1KOHM+-1%TK50 RESISTOR	RL 082.2160	DRALORIC	SMA0207/1K-F-C	
R29	RL 0,35W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	
R30	RL 0,35W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	
R31	RL 0,35W4,75 OHM+-1%TK50 METALFILMRESISTOR	RL 099.8021	RESISTA	MK2 4,75 OHM 1% TK50	
R32	RJ 1W 18 OHM+-5%TK200 RESISTOR	451.5055	RESISTA	18OHM+-5% TK200	
R33	RL 0,35W 47,5 OHM+-1%TK50 RESISTOR	RL 082.9507	DRALORIC	SMA0207/47,5OHM-F-D	
R34	RD 0,8W 47 MIOHM+-3% WIRE-WOUND RESISTOR	RD 069.1458	SAGE	1000S/0,04OHM/3%	
R35	RD 0,8W 47 MIOHM+-3% WIRE-WOUND RESISTOR	RD 069.1458	SAGE	1000S/0,04OHM/3%	
R36	RJ 1W 18 OHM+-5%TK200 RESISTOR	451.5055	RESISTA	18OHM+-5% TK200	
R37	RD 2.4 W 1 KOHM +-3% WIRE WOUND RESISTOR	RD 067.9297	SAGE	1200S/1,0K/3%	
R38	RL 1W 1 MOHM+-1%TK100 METAL FILM RESISTOR	RL 006.6617	RESISTA	MK5 1 MOHM 1%TK100	
R39	RS 0,5W10KOHM+-10%10X10X5 CERMET POTENTIOMETER T	RS 247.7526	BOURNS	3386X1-103	
R45	RL 0,35W 4,75KOHM+-1%TK50 RESISTOR	RL 083.1097	DRALORIC	SMA0207/4,75K-F-D	
R46	RL 0,35W4,75MOHM+-1%TK50 METALFILMRESISTOR	RL 099.8250	RESISTA	MK2 4,75MOHM 1% TK50	
R47	RL 0,35W 8,25KOHM+-1%TK50 RESISTOR	RL 083.1239	DRALORIC	SMA0207/8,25K-F-D	
R48	RL 0,35W 100 OHM+-1%TK50 METALFILM-RESISTOR	RL 082.6543	DRALORIC	SMA0207/100/HM-F-D	
R49	RL 0,35W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	
R50	RL 0,35W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	
R51	RL 0,35W 1KOHM+-1%TK50 RESISTOR	RL 082.2160	DRALORIC	SMA0207/1K-F-C	
R52	RL 0,35W 1MOHM+-1%TK50 RESISTOR	RL 082.7862	DRALORIC	SMA0207/1M-F-D	
R53	RL 0,35W 1KOHM+-1%TK50 RESISTOR	RL 082.2160	DRALORIC	SMA0207/1K-F-C	
R54	RL 0,21W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R55	RL 0,21W 22,1KOHM+-1%TK50 RESISTOR	RL 092.1609	RESISTA	MK1 22K1 1% TK50	
R56	RL 0,21W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R57	RL 0,21W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R58	RL 0,21W 4,75KOHM+-1%TK50 RESISTOR	RL 092.1521	RESISTA	MK1 4K75 1% TK50	
R59	RL 0,21W 4,75KOHM+-1%TK50 RESISTOR	RL 092.1521	RESISTA	MK1 4K75 1% TK50	
R60	RL 0,21W 100 KOHM+-1%TK50 RESISTOR	RL 092.1680	RESISTA	MK1 100K 10% TK50	
R61	RL 0,21W 4,75KOHM+-1%TK50 RESISTOR	RL 092.1521	RESISTA	MK1 4K75 1% TK50	
R62	RL 0,21W 15,0KOHM+-1%TK50 RESISTOR	RL 092.1580	RESISTA	MK1 15K 1% TK50	

Kennz. Comp.No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
T1	LU ZUENDUEBERTR.0,4W IGNATION TRANSFORMER		645.7316	VAC	ZKB 409/020-01-PF	
T2	LU GT UEBERTR. TRANSFORMER		718.3472	VAC	N.R&S-ZCHNG.718.3472	
V1	FELDEFFEKT TRANSISTOR TRANSISTOR		718.2747			
V2	FELDEFFEKT TRANSISTOR TRANSISTOR		718.2747			
V3	FELDEFFEKT TRANSISTOR TRANSISTOR		718.2747			
V4	FELDEFFEKT TRANSISTOR TRANSISTOR		718.2747			
V5	AM BUZ21 N-E 100V MOSF POWER MOSFET	AM	645.7300	SIEMENS	BUZ21	
V6	AM BSS89 N-E200V MOSF FET		651.7666	SIEMENS	BSS89	
V7	AM BS250 P-E 45V MOSF MOS-FET	AM	566.1216	INTERMETAL	BS250	
V8	AM BUZ21 N-E 100V MOSF POWER MOSFET	AM	645.7300	SIEMENS	BUZ21	
V9	AM BUZ21 N-E 100V MOSF POWER MOSFET	AM	645.7300	SIEMENS	BUZ21	
V10	AK BCY59IX N 45V 200MA TRANSISTOR	AK	010.5163	VALVO	BCY59IX	
V11	AM BSS89 N-E200V MOSF FET		651.7666	SIEMENS	BSS89	
V20	AG 1N5804 GL 100V 2A5 RECTIFIER	AG	453.4762	UNITRODE	1N5804	
V21	AE BZX79/C7V5 0,5W ZDI ZENER DIODE	AE	012.2484	VALVO	BZX79/C7V5	
V22	AE BZX79/C7V5 0,5W ZDI ZENER DIODE	AE	012.2484	VALVO	BZX79/C7V5	
V23	AG 1N5804 GL 100V 2A5 RECTIFIER	AG	453.4762	UNITRODE	1N5804	
V24	AE BZX79/C7V5 0,5W ZDI ZENER DIODE	AE	012.2484	VALVO	BZX79/C7V5	
V25	AE BZX79/C7V5 0,5W ZDI ZENER DIODE	AE	012.2484	VALVO	BZX79/C7V5	
V26	AE 5082-2800 SCHOTTKY DIODE	AE	012.9066	HEWLETT-P.	5082-2800	
V27	AE DH832 1800V PIN PIN DIODE		718.1263	THOMSON	DH832	
V28	AE DH832 1800V PIN PIN DIODE		718.1263	THOMSON	DH832	
V29	AE DH832 1800V PIN PIN DIODE		718.1263	THOMSON	DH832	
V30 ..33	AE BZX79/C15 0,5W ZDI ZENER DIODE	AE	012.2555	VALVO	BZX79/C15 GEGURTET	
V36	AD BAV21 250V 0A25 UDI DIODE	AD	082.6837	INTERMETAL	BAV21	
V38	AD BAV21 250V 0A25 UDI DIODE	AD	082.6837	INTERMETAL	BAV21	
V39	AE BZX79/C15 0,5W ZDI ZENER DIODE	AE	012.2555	VALVO	BZX79/C15 GEGURTET	
V40	AG BYW29/150 GL 150V 7A0 RECTIFIER	AG	300.6799	VALVO	BYW29/150	
V41	AE BZT03/C47 3.2W ZDI ZENER DIODE	AE	007.4299	VALVO	BZT03/C47	
V42	AE BZT03/C47 3.2W ZDI ZENER DIODE	AE	007.4299	VALVO	BZT03/C47	
V43	AG UES2402 2GL100V16A0 RECTIFIER		645.7339	UNITRODE	UES2402	
V44 ..49	AG BYW95C GL 600V 3A0 RECTIFIER		681.2091	VALVO	BYW95C	
V50	AD BAV21 250V 0A25 UDI DIODE	AD	082.6837	INTERMETAL	BAV21	
V51	AD BAV21 250V 0A25 UDI DIODE	AD	082.6837	INTERMETAL	BAV21	
V52	AD BAV21 250V 0A25 UDI DIODE	AD	082.6837	INTERMETAL	BAV21	
V53	AD BAV21 250V 0A25 UDI DIODE	AD	082.6837	INTERMETAL	BAV21	
W1	DX HF-KABEL (W1)		718.2518			718.2876
W2	DX HF-KABEL		718.1640			718.2876
W3	DX HF-KABEL		718.2830			718.2876

Kennz. Comp.No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
W5	DX HF-KABEL NUR VAR/ONLY MOD: 02		718.2901			
W5	DX HF-KABEL NUR VAR/ONLY MOD: 20		718.1134			
X21	FP INDIREKT.STECKERL.36P. PIN CONNECTOR 2X5-POLIG/2X5 PINS	FP	242.3600	BINDER	742-5-11-0178-00-36	
X78	BESTEHT AUS/CONSISTING OF 1X FP087.9028 9X FP242.3580 1X FP242.3597					718.2499
X81	FJ KABELEINBAUBUCHSE SMA CONNECTOR	FJ	099.5497	SUHNER	24SMA-50-3-15	718.2518
X91	FP WINKELSTECKER 3POL. CONNECTOR 3P. NUR VAR/ONLY MOD: 02		718.1292	AMP	1-350943-0	
X91	ZE STECKER BEARB. NUR VAR/ONLY MOD: 20		718.1357			
X210	BESTEHT AUS/CONSISTING OF 1X FP087.9028 9X FP242.3580 1X FP242.3597					718.2499
X212	BESTEHT AUS/CONSISTING OF 1X FP087.9028 9X FP242.3580 1X FP242.3597					718.1128
X782	BESTEHT AUS/CONSISTING OF 1X FP087.9028 9X FP242.3580 1X FP242.3597					718.1128
						- ENDE -

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL				
..	ZUGEH.STROML./CIRC.DIAGR. 718.2301.01 S				
C60	CC 1UF+-10%50V7K1200VIEL CAPACITOR	CC 084.5538	UNION CARB	CK06BX105K	
C61	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C62	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C63	CC 1UF+-10%50V7K1200VIEL CAPACITOR	CC 084.5538	UNION CARB	CK06BX105K	
L20	LD 25UH BEI 3 A 0,046 OHM CHOKE	LD 026.4849	SIEMENS	B82111-B-C24	
					- ENDE -

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
. ..	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG MOD 02 = BASIC MODEL ZUGEH.STROML./CIRC.DIAGR. 718.2301.01 S				
C66	CE 220UF-10+50% 16V 13X17 ELECTROLYTIC CAPACITOR	CE 022.7566	SIEMENS	B41316-A4227-Z	
L21	LD 25UH BEI 3 A 0,046 OHM CHOKE	LD 026.4849	SIEMENS	B82111-B-C24	
					- ENDE -

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = GRUNDAUSFUEHRUNG FUER VK859H2 MOD 02 = BASIC MODEL FOR VK859H2 VAR 03 = FUER VK859C1 MOD 03 - FOR VK859C1				
..	ZUGEH.STROML./CIRC.DIAGR. 625.8017.01 S				
C1	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C2	CC 330PF+- 5%100V NPO VIE CERAMIC CAPACITOR	CC 060.0836	UNIONCARB	C052C331J2G1CA	
C3	CC 4,7PF+-0,5PF1KV/N470 CERAMIC CAPACITORS	680.4378	DRALORIC	SDPT 5 1KV 4.7PF	
C4	CG 20NF+-10% 1000V MICA CAPACITOR	718.1257	BMC	17NF/1000V/AG-300	
C5	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C6	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C7	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 007.5237	VITRAMON	VJ1206 Y 104 K AT	
C8	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C9	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C10	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C11	CC 10NF+50-20%HDK6000RD19 CERAMIC CAPACITOR	022.0710	RESISTA	QBX619/10NF/2KV	
C12	CC 10NF+50-20%HDK6000RD19 CERAMIC CAPACITOR	022.0710	RESISTA	QBX619/10NF/2KV	
C14	CC 10NF+50-20%HDK6000RD19 CERAMIC CAPACITOR	022.0710	RESISTA	QBX619/10NF/2KV	
C15	CC 10NF+50-20%HDK6000RD19 CERAMIC CAPACITOR	022.0710	RESISTA	QBX619/10NF/2KV	
C17	CC 100NF+-10%50V5K1200VIE CAPACITOR	CC 084.5350	UNION CARB	CK05BX104K	
C18	CC 10PF+-10%1KV N750/1B 5 HIGHVOLTAGE CAPACITOR	520.5925	DRALORIC	SDPT 5 1KV 10PF 10%	
C20	CC 1UF+-10% 50V X7R 2220 CERAMIC CAPACITOR	CC 520.6873	VITRAMON	VJ2220 Y105 KFAT	
C21	CC 1UF+-10% 50V X7R 2220 CERAMIC CAPACITOR	CC 520.6873	VITRAMON	VJ2220 Y105 KFAT	
C22 ..25	CE 220UF-10+50%40V12,5X20 ALUMINIUM CAPACITOR	565.9494	ROEDERST	EKR00FE322G	
C26	CC 1UF+-10% 50V X7R 2220 CERAMIC CAPACITOR	CC 520.6873	VITRAMON	VJ2220 Y105 KFAT	
C27	CE 220UF+-20%16V RD8,7X11 ELECTROLYTIC CAPACITOR	686.9613	PHILIPS-CO	2222 116 65221	
C28	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 068.4047	UNION CARB	CK05BX102K	
C29	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 007.5237	VITRAMON	VJ1206 Y 104 K AT	
C30	CC 1UF+-10% 50V X7R 2220 CERAMIC CAPACITOR	CC 520.6873	VITRAMON	VJ2220 Y105 KFAT	
C31	CC 1NF+-10%200V5K1200VIEL CAPACITOR	CC 068.4047	UNION CARB	CK05BX102K	
C32	CE 470UF-10+50%16V12,5X20 ALUMINIUM CAPACITOR	565.8400	PANASONIC	ECE A1 CFS 471	
C33	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 007.5237	VITRAMON	VJ1206 Y 104 K AT	
C34	CE 470UF-10+50%16V12,5X20 ALUMINIUM CAPACITOR	565.8400	PANASONIC	ECE A1 CFS 471	
C35	CK 100NF+-5%400V RM15 CAPACITOR	520.6615	SIEMENS	B32650-K4104-J	
C36	CK 100NF+-5%400V RM15 CAPACITOR	520.6615	SIEMENS	B32650-K4104-J	
C37	CK 100NF+-5%400V RM15 CAPACITOR	520.6615	SIEMENS	B32650-K4104-J	
C38	CK 100NF+-5%400V RM15 CAPACITOR	520.6615	SIEMENS	B32650-K4104-J	
C39	CK 100NF+-5%400V RM15 CAPACITOR	520.6615	SIEMENS	B32650-K4104-J	
C40	CK 100NF+-5%400V RM15 CAPACITOR	520.6615	SIEMENS	B32650-K4104-J	

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C41	CK 330NF+-5%1KV RM27,5 CAPACITOR	520.6609	SIEMENS	B32650-K334-J	
C42	CK 330NF+-5%1KV RM27,5 CAPACITOR	520.6609	SIEMENS	B32650-K334-J	
C45	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 007.5237	VITRAMON	VJ1206 Y 104 K AT	
C46	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 099.8415	VITRAMON	VJ1206 A 101 F AT	
C47	CC 1UF+-10%50V7K1200VIEL CAPACITOR	084.5538	UNION CARB	CK06BX105K	
C48	CC 820PF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 007.7381	VITRAMON	VJ1206 A 821 F AT	
C49	CK 1UF+-5% 50V RD5,5H11,5 CAPACITOR	CK 099.2998	WIMA	MKS2/50/1UF/5%	
C50	CE 22UF+-20%10V SAL ELECTR.CAPACITOR	CE 007.3940	PHILIPS-CO	2222 122 34229	
C68	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 007.5237	VITRAMON	VJ1206 Y 104 K AT	
C69	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 007.5237	VITRAMON	VJ1206 Y 104 K AT	
C70	CC 470NF+-10%50VK1200VIEL CAPACITOR	068.4082	UNION CARB	CK06BX474K	
C71	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 007.5237	VITRAMON	VJ1206 Y 104 K AT	
C72	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 007.5237	VITRAMON	VJ1206 Y 104 K AT	
C73	CE 2,2UF+-20%40V SAL ELECTR.CAPACITOR	CE 007.3911	PHILIPS-CO	2222 122 37228	
C74	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 007.5237	VITRAMON	VJ1206 Y 104 K AT	
C75	CE 470UF-10+50%16V12,5X20 ALUMINIUM CAPACITOR	565.8400	PANASONIC	ECE A1 CFS 471	
C76	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 007.5237	VITRAMON	VJ1206 Y 104 K AT	
C80	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 007.5237	VITRAMON	VJ1206 Y 104 K AT	
D1	BL MM74HC04N 6XINVERTER HEX-INVERTER	BL 571.3365	MOTOROLA	MC74HC04N	
D2	BL PC74HC109T 2XJK-FF DUAL JK FLIPFLOP	007.4999	PHILIPS-CO	PC74HC109T	
D3	BJ TSC426IJA 2XTTL/MOS-LC DUAL LEVEL CONVERTER	586.8622	TELEDYNE	TC426IJA	
D4	BL CD4023BE 3X3IN.NANDG NAND GATE	086.7109	RCA	CD4023BE	
D5	BL PC74HC74T 2XD-FF DUAL D-TYPE FLIPFLOP	007.3505	PHILIPS-CO	PC74HC74T	
K1	SN 12V 2XUM 4A 180 OHM RELAY	520.5819	HENGSTLER	HDE03546/22-1113-	
L1	LD SPULE	718.1111			
L2	LD SPULE	718.1111			
L3	LD 100UH 20% 1A 0,650OHM CHOKE	LD 155.9446	SIEMENS	B82111-E-C25	
L4	LD 220UH 0,5A 2,6OHM CHOKE	LD 099.5200	SIEMENS	B 82111-E-C26	
L5	LD 100UH 20% 1A 0,650OHM CHOKE	LD 155.9446	SIEMENS	B82111-E-C25	
L6	LD 25UH 3A 0,046OHM CHOKE	LD 026.4849	SIEMENS	B82111-B-C24	
L7	LD SPEICHERDROSSEL 2,5A CHOKE	303.9501	VAC	ZKB 461/099-02-H2	
L8	LD 25UH 3A 0,046OHM CHOKE	LD 026.4849	SIEMENS	B82111-B-C24	
L10	LD 47,0UH10%4,500HM0,110A CHOKE	LD 067.3060	DELEVAN	DROSSEL1025-60	
N1	BO TL074IN LN 4XFET OPAMP OPERATIONAL AMPLIFIER	568.7528	TEXAS INST	TL074IN	
N2	BO UA78M12H+12V0A5 VREGL VOLTAGE REGULATOR	580.9362	SILICON GE	SG7812T	
N3	BO SG1524BJ 0A1 SCH.REGL REG.PULSE WIDTH MODULATOR	BO 099.8580	SILICON GE	SG1524BJ	
N4	BO LM2901D 4X COMPAR COMPARATOR	007.7875	SIGNETICS	LM 2901D	

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R1	ZE HOCHSPG.SUBSTR.WIDERST	718.1305			
R2	RL 0,60W 7,50KOHM+-1%TK50 RESISTOR	RL 083.1197	DRALORIC	SMA0207/7,5K-F-D	
R3	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	
R4	RG 150 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 007.5972	DALE	CRCW1206-10 150K F-T	
R5	RG 10 KOHM+-1%TK100 1206 CHIP RESISTOR	RG 007.0793	DALE	CRCW1206-10 10K F-T	
R6	RL 0,40W 332 OHM+-1%TK50 RESISTOR	RL 092.1380	RESISTA	MK1 332OHM 1% TK50	
R7	RL 0,60W 20,0KOHM+-1%TK50 RESISTOR	RL 083.1522	DRALORIC	SMA/207/20K-F-C	
R8	RL 0,40W 22,1KOHM+-1%TK50 RESISTOR	RL 092.1609	RESISTA	MK1 22K1 1% TK50	
R9	RG 22,1KOHM+-1%TK100 1206 RESISTOR CHIP	RG 007.5872	DALE	CRCW1206-10 22K1 F-T	
R10	RL 0,40W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R11	RL 0,40W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R12	RD 2.4 W 1,8 OHM +-1% WIRE WOUND RESISTOR	RD 067.9280	SAGE	1200S/1,8OHM/1%	
R13	RL 0,40W 150 KOHM+-1%TK50 RESISTOR	RL 092.1709	RESISTA	MK1 150K 1% TK50	
R14	RL 0,60W 10,0KOHM+-1%TK50 RESISTOR	RL 083.1297	DRALORIC	SMA0207/10K-F-D	
R15	RL 0,40W 332 OHM+-1%TK50 RESISTOR	RL 092.1380	RESISTA	MK1 332OHM 1% TK50	
R16	RG 20,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 007.5866	DALE	CRCW1206-10 20K F-T	
R17	RL 0,40W 22,1KOHM+-1%TK50 RESISTOR	RL 092.1609	RESISTA	MK1 22K1 1% TK50	
R18	RG 22,1KOHM+-1%TK100 1206 RESISTOR CHIP	RG 007.5872	DALE	CRCW1206-10 22K1 F-T	
R19	RL 0,40W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R20	RL 0,40W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R21	RD 2.4W 2,2 OHM+-1% WIRE-WOUND RESISTOR	RD 087.5068	SAGE	1200S2,2K+1%	
R22	RL 0,60W3,32 OHM+-1%TK50 METALFILMRESISTOR	RL 099.7983	RESISTA	MK2 3,32 OHM 1% TK50	
R28	RG 1000 OHM+-1%TK100 1206 CHIP RESISTOR	RG 006.7271	DALE	CRCW1206-10 1K F-T	
R29	RG 10 KOHM+-1%TK100 1206 CHIP RESISTOR	RG 007.0793	DALE	CRCW1206-10 10K F-T	
R30	RG 10 KOHM+-1%TK100 1206 CHIP RESISTOR	RG 007.0793	DALE	CRCW1206-10 10K F-T	
R31	RL 0,60W4,75 OHM+-1%TK50 METALFILMRESISTOR	RL 099.8021	RESISTA	MK2 4,75 OHM 1% TK50	
R32	RJ 1W 18 OHM+-5%TK200 RESISTOR	451.5055	RESISTA	18OHM+-5% TK200	
R33	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 007.5566	DALE	CRCW1206-10 47R5 F-T	
R34	RD 0,8W 47 MIOHM+-1% WIRE-WOUND RESISTOR	RD 069.1458	SAGE	1000S ... 1% 1W TK20	
R35	RD 0,8W 47 MIOHM+-1% WIRE-WOUND RESISTOR	RD 069.1458	SAGE	1000S ... 1% 1W TK20	
R36	RJ 1W 18 OHM+-5%TK200 RESISTOR	451.5055	RESISTA	18OHM+-5% TK200	
R37	RD 2.4 W 1 KOHM +-1% WIRE WOUND RESISTOR	RD 067.9297	SAGE	1200S/1,0K/1%	
R38	RL 1W 1 MOHM+-1%TK100 METAL FILM RESISTOR	RL 006.6617	ROEDERSTEI	MK 5	
R39	RS 0,5W10KOHM+-10%10X10X5 CERMET POTENTIOMETER T	RS 247.7526	BOURNS	3386X1-103	
R45	RG 4,75KOHM+-1%TK100 1206 RESISTOR CHIP	RG 007.5820	DALE	CRCW1206-10 4K75 F-T	
R46	RG 0,25W 4,7MOHM+-5%TK200 RESISTOR	625.7940	PHILIPS	VR25 4,7MOHM 5%	
R47	RG 8,25KOHM+-1%TK100 1206 CHIP RESISTOR	RG 007.0770	DALE	CRCW1206-10 8K25 F-T	
R48	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 006.8884	DALE	CRCW1206-10 100R F-T	
R49	RG 10 KOHM+-1%TK100 1206 CHIP RESISTOR	RG 007.0793	DALE	CRCW1206-10 10K F-T	

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R50	RG 10 KOHM+-1%TK100 1206 CHIP RESISTOR	RG 007.0793	DALE	CRCW1206-10 10K F-T	
R51	RG 1000 OHM+-1%TK100 1206 CHIP RESISTOR	RG 006.7271	DALE	CRCW1206-10 1K F-T	
R52	RG 1,0MOHM+-1%TK100 1206 CHIP RESISTOR	RG 815.7532	DALE	CRCW1206-10 1M F-T	
R53	RG 1000 OHM+-1%TK100 1206 CHIP RESISTOR	RG 006.7271	DALE	CRCW1206-10 1K F-T	
R54	RL 0,40W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R55	RL 0,40W 22,1KOHM+-1%TK50 RESISTOR	RL 092.1609	RESISTA	MK1 22K1 1% TK50	
R56	RL 0,40W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R57	RL 0,40W 10,0KOHM+-1%TK50 RESISTOR	RL 092.1567	RESISTA	MK1 10K0 1% TK50	
R58	RL 0,40W 4,75KOHM+-1%TK50 RESISTOR	RL 092.1521	RESISTA	MK1 4K75 1% TK50	
R59	RL 0,40W 4,75KOHM+-1%TK50 RESISTOR	RL 092.1521	RESISTA	MK1 4K75 1% TK50	
R60	RL 0,40W 100 KOHM+-1%TK50 RESISTOR	RL 092.1680	RESISTA	MK1 100K 10% TK50	
R61	RL 0,40W 4,75KOHM+-1%TK50 RESISTOR	RL 092.1521	RESISTA	MK1 4K75 1% TK50	
R62	RL 0,40W 15,0KOHM+-1%TK50 RESISTOR	RL 092.1580	RESISTA	MK1 15K 1% TK50	
R70	RG 6,81KOHM+-1%TK100 1206 CHIP RESISTOR	RG 007.0758	DALE	CRCW1206-10 6K81 F-T	
R71	RG 10 KOHM+-1%TK100 1206 CHIP RESISTOR	RG 007.0793	DALE	CRCW1206-10 10K F-T	
R72	RG 33,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 007.5914	DALE	CRCW1206-10 33K2 F-T	
R73	RG 1000 OHM+-1%TK100 1206 CHIP RESISTOR	RG 006.7271	DALE	CRCW1206-10 1K F-T	
R74	RG 1,0MOHM+-1%TK100 1206 CHIP RESISTOR	RG 815.7532	DALE	CRCW1206-10 1M F-T	
R75	RG 4,75KOHM+-1%TK100 1206 RESISTOR CHIP	RG 007.5820	DALE	CRCW1206-10 4K75 F-T	
R76	RG 100KOHM+-1%TK100 1206 CHIP RESISTOR	RG 007.1948	DALE	CRCW1206-10 100K F-T	
T1	LU ZUENDUEBERTR.0,4W IGNATION TRANSFORMER	645.7316	VAC	ZKB 409/020-01-PF	
T2	LU GT UEBERTR. TRANSFORMER	718.3472	VAC	N.R&S-ZCHNG.718.3472	
V1	AM FELDEFFEKT TRANSISTOR TRANSISTOR	718.2747			
V2	AM FELDEFFEKT TRANSISTOR TRANSISTOR	718.2747			
V3	AM BUZ357 N-E1000V MOSF POWER MOSFET	626.3590	SIEMENS	BUZ357	
V4	AM BUZ357 N-E1000V MOSF POWER MOSFET	626.3590	SIEMENS	BUZ357	
V5	AM BUZ21 N-E 100V MOSF POWER MOSFET	AM 645.7300	SIEMENS	BUZ21(C67078-S1308-A	
V6	AM BSS87 N-E 200V MOSF DMOS FET	763.5206	PHILIPS	BSS87	
V7	AK BCX71J P 45V 200MA TRANSISTOR	AK 007.2096	PHILIPS-CO	BCX71J	
V8	AM BUZ21 N-E 100V MOSF POWER MOSFET	AM 645.7300	SIEMENS	BUZ21(C67078-S1308-A	
V9	AM BUZ21 N-E 100V MOSF POWER MOSFET	AM 645.7300	SIEMENS	BUZ21(C67078-S1308-A	
V10	AK BCX70H N 45V 200MA TRANSISTOR	AK 007.3105	PHILIPS-CO	BCX70H	
V11	AM BSS89 N-E200V MOSF FET	651.7666	SIEMENS	BSS89(Q62702-S455)	
V20	AG 1N5804 GL 100V 2A5 RECTIFIER	AG 453.4762	UNITRODE	1N5804	
V21	AE BZX55/B7V5 0,5W ZDI ZENER DIODE	AE 349.3041	PHILIPS-CO	BZX79/B7V5	
V22	AE BZX55/B7V5 0,5W ZDI ZENER DIODE	AE 349.3041	PHILIPS-CO	BZX79/B7V5	
V23	AG 1N5804 GL 100V 2A5 RECTIFIER	AG 453.4762	UNITRODE	1N5804	
V24	AE BZX55/B7V5 0,5W ZDI ZENER DIODE	AE 349.3041	PHILIPS-CO	BZX79/B7V5	

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
V25	AE BZX55/B7V5 0,5W ZDI ZENER DIODE	AE 349.3041	PHILIPS-CO	BZX79/B7V5	
V26	AE 5082-2800 SCHOTTKY DIODE	AE 012.9066	HEWLETT-P.	5082-2800	
V29	AG BY228 GL1500V 5A0 RECTIFIER	805.7575	PHILIPS-CO	BY228	
V30 ..33	AE BZX79B15 2% 0.5W ZDI ZENER DIODE	AE 008.7610	PHILIPS	BZX79B15	
V36	AD BAV103 250V UDI DIODE	006.9780	PHILIPS-CO	BAV103	
V38	AD BAV103 250V UDI DIODE	006.9780	PHILIPS-CO	BAV103	
V39	AE BZV55/C15 0,5W ZDI ZENER DIODE	AE 006.9900	PHILIPS-CO	BZV55/C15	
V40	AG BYW29/150 GL 150V 7A0 RECTIFIER	AG 300.6799	PHILIPS SE	BYW29E/150	
V41	AE BZT03/C47 3.2W ZDI ZENER DIODE	AE 007.4299	PHILIPS-CO	BZT03/C47	
V42	AE BZT03/C47 3.2W ZDI ZENER DIODE	AE 007.4299	PHILIPS-CO	BZT03/C47	
V43	AG UES2402 2GL100V16A0 RECTIFIER	645.7339	UNITRODE	UES2402	
V44 ..49	AG BYD37J GL 600V 1A5 FAST RECOVERY RECTIFIER	625.7933	PHILIPS-CO	BYD37J(GEG)	
V50 ..53	AD BAV21 250V UDI DIODE	AD 082.6837	INTERMETAL	BAV21	
V54	AD BAV103 250V UDI DIODE	006.9780	PHILIPS-CO	BAV103	
V27A	AE DH89189BM11 PAAR NIP PIN (NIP) DIODE PAIR	626.3319	TEKELEC	DH89189M11(PAARWEISE	
V27B	AE DH89189BM11 PAAR NIP PIN (NIP) DIODE PAIR	626.3319	TEKELEC	DH89189M11(PAARWEISE	
W1	DV HF-KABEL RF CABLE	625.8381			
W2	DX KABEL W2 CABLE	625.8581			
W3	DX KABEL W3 CABLE	625.8598			
W4	DW HF-KABEL RF CABLE	625.8252			
W5	DV HF-KABEL RF CABLE	718.2901			
X2	BESTEHT AUS/CONSISTING OF 1XGEHAEUSE 520.5831 3XKONTAKT FP343.4946				625.8398
X21	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 2X5-POLIG/2X5 PINS	FP 242.3600	BINDER	742-11-0179-00-36	
X75	FJ EINBAUBUCHSE SYST.N SOCKET	FJ 503.4830	SUHNER	25N-50-3-7C	625.8381
X78	BESTEHT AUS/CONSISTING OF 1X FP087.9028 9X FP242.3580 1X FP242.3597				625.8323
X81	FJ KABELEINBAUBUCHSE SMA CONNECTOR	FJ 099.5497	SUHNER	24 SMA-50-3-15	625.8252
X210	BESTEHT AUS/CONSISTING OF 1X FP087.9028 9X FP242.3580 1X FP242.3597				625.8323
					- ENDE -

ROHDE&SCHWARZ

Communications Division

Repair Manual

RACK, STATIONARY
KG 859C4

681.5010

ROHDE & SCHWARZ GmbH & Co. KG • D-81671 München • Mühldorfstr. 15 • Tel. (089) 4129-0 Int. +4989 4129-0
Telefax (089)4129-2164 Int. +49894129-2164
Printed in the Federal Republic of Germany • Subject to change • Data without tolerances: order of magnitude only
0694

L I S T O F C O N T E N T S

(Continuation)---

---(Continuation) List of Contents

5. Description of Function

The Rack, Stationary, KG 859C4 serves for holding slide-in units of 1-kW Transceiver XK 859C1. The slide-in units are interconnected by cabling integrated into the rack.

By means of the terminal blocks on the base plate the rack can be connected to a three-phase line supply (200 VAC or 380 VAC) and/or to a 24-VDC battery (for emergency operation). From the two terminal blocks that are provided for battery connection a cable is routed directly to connector X74 of Power Supply slide-in unit IN 859C1.

Between the three-phase connection of the rack and connector X76, which is the three-phase connection for Power Supply slide-in unit IN 859C1, there is mains filter Z1. This mains filter, a low-pass filter, shorts RF signals that could penetrate the mains from the 1-kW transceiver. It also prevents stray RF that is already superimposed on the mains supply from reaching Power Supply IN 859C1 of the 1-kW transceiver.

The slide-in units Power Supply IN 859C1, Line Flattener FK 859C1 and Amplifier VK 859C1 are connected by male or female multipoint connectors and cables that are already integrated into Rack, Stationary, KG 859C4. When these units are pushed in, their connections are established automatically.

Trailing cables are provided for connecting Receiver/Exciter GX 859C1 and its options ALIS Processor GP 853C1, ISB Modem GM 853C1 and Antenna Selector GV 851. To simplify connection of the trailing cables, Receiver/Exciter GX 859C1 is mounted on telescopic rails.

Additional items of equipment can be connected to 1-kW Transceiver XK 859C1. For this purpose there are the following three connectors on the rear of the rack, below slide-in unit IN 859C1.

X12 REMOTE:	for a detached Control Unit GB 853C1
X13 ATU:	for Antenna Tuning Unit FK 859
X14 EXTERNal:	for teleprinters, etc.

Rack, Stationary, KG 859C4 and the slide-in units contained in it are grounded from a central terminal on the rear of the rack.

****

N O T E S

****

6. Repair

See circuit diagram and parts list in the appendix to this repair manual.

6.1 Preliminary Remarks

6.1.1 General

Repair of Rack, Stationary, KG 859C4 consists of troubleshooting and fault elimination as well as of replacing cables and connectors.

All the information required for repairing Rack, Stationary, KG 859C4 is given in this chapter.

General advice:

Only disassemble Rack, Stationary, KG 859C4 to the extent necessary for repairing the fault, damage, etc.

Any part that is definitely proved to be defective - through use of the troubleshooting instructions - should only be replaced for a part that meets the specifications given in the parts list in the appendix to this repair manual.

All parts are subjected to strict quality control before they are installed.

To ensure maximum reliability, we recommend that only original spare parts be used to replace defective parts.

When ordering a spare part please state the following:

type, ordering code and serial number of equipment, Ident. No. of parts list and designation plus stock number of part concerned.

All of these details are to be found in the documents in the appendix.

6.1.2 Important User Information

The abbreviations used here, e.g. X76.1 and X71.A, are to be interpreted as follows:

X76.1: connector X76, contact 1

X71.A: connector X71, contact A

6.2 Test Equipment

The test equipment specified below will be required for performing the repairs described in this chapter.

Equivalent items of test equipment can be used, provided that their technical data are as good or better than those stated.

No special tools are called for.

Test equipment, required technical data	Recommended R&S equipment	Ordering code
Digital multimeter 3.5-digit, 1 ohm to 10 Mohms	UDL33	388.8011
High-voltage tester 0 to 3500 VDC	-	-

6.3 Troubleshooting Instructions

D A N G E R

Under no circumstances may trouble-shooting be performed of Rack, Stationary, KG 859C4 while the supply voltage is still connected.

Before starting troubleshooting separate the rack from both the mains supply and the battery.

6.3.1 General

The following troubleshooting instructions cover throubleshooting and fault elimination on the entire Rack, Stationary,KG 859C4. The rack contains no active components, so troubleshooting consists solely of a visual examination plus continuity and insulation tests.

The given sequence for the trouble-shooting should be adhered to so that faults can be detected and remedied as speedily and rationally as possible.

6.3.2 Visual Examination

1. Examine Rack, Stationary, KG 859C4 externally for mechanical damage.

2. Take off the rear of the rack. To do this, undo ten Phillips screws.

3. Remove any dummy panels from the front of the rack.

4. Check all terminal connections for proper seating. Tighten any loose terminal screws.

5. Examine all connectors for bent, corroded or broken pins. Replace any connector that is defective according to 6.5.2.

6. Examine all cables for scorches, defective insulation and broken wires. Replace any cable that is damaged according to 6.5.3.

7. Check all retaining screws for proper seating.

6.3.3 Continuity and Insulation Tests

Troubleshooting of the cables and mains filter Z1 consists of continuity and insulation tests.

After completion of the repairs, assemble the rack again in its entirety and perform the final test according to 6.6.

6.3.3.1 Continuity and Short-circuit Tests

1. Test each line for continuity from the pin of the connector through to the mating pin according to circuit diagram 680.1110.01S. For this use a digital multimeter set to the lowest resistance range.

2. If an interruption is detected when testing as prescribed in step 1, examine the connectors of the cable concerned for loose screw terminals and/or broken soldered joints. Tighten any loose screw terminals and renew any broken soldered joints.

3. If any interruption detected when testing as prescribed in step 1 is not caused by a loose screw terminal or broken soldered joint, replace the cable concerned according to 6.5.3.

4. Examine each line with each adjacent, not connected line for short-circuits according to circuit diagram 680.1110.01S. For this use a digital multimeter set to the highest resistance range.

5. If a short-circuit is detected in a cable when testing as prescribed in step 4, replace the cable concerned according to 6.5.3.

6.3.3.2 Test of Mains Filter Z1

To test the mains filter, perform the following measurements:

1. Test mains filter Z1 according to circuit diagram 680.1110.01S for continuity of the outer conductors. For this use a digital multimeter set to the lowest resistance range.

(Continuation)---

---(Continuation) Test of Line
Filter Z1

2. On mains filter Z1 measure the resistance from each outer conductor to each of the other two outer conductors according to circuit diagram 680.1110.01S.

   Nominal value: R ≥ 2 Mohms

3. If step 1 and/or step 2 shows the mains filter to be defective, replace it according to 6.5.4.

After completion of the repairs, assemble the rack again in its entirety and perform the final test according to 6.6.

6.3.3.3 Insulation Test

Cables W1, W30 and W6 must be subjected to an additional insulation test. Proceed as follows (see circuit diagram 680.1110.01S):

1. Place a conducting link between pins 1, 2 and 3 of female multipoint connector X76 and between pins A and C of male multipoint connector X71.

2. Connect the DC output of a high-voltage tester between X76.1/.2/.3 and ground and then between X71.A/.C and ground.

3. Allow the DC voltage to increase gradually (in approx. 10 s) to 3500 VDC and leave it applied for 1 min.

4. Reduce the test voltage to zero again and disconnect the high-voltage tester.

5. Remove the links between X76.1/.2/.3 and between X71.A/.C.

6. If arcing or a breakdown occurs when performing the insulation test according to step 3, replace the component concerned according to 6.5.

6.4 Measurements, Alignments and Functional Tests

All measurements and functional tests necessary for troubleshooting are part of the troubleshooting instructions in part 6.3.

Rack, Stationary, KG 859C4 contains no electronic circuit boards, so no further measurements, alignments or functional tests are called for.

6.5 Replacement of Components

D A N G E R

Under no circumstances may components be replaced while the supply voltage is still connected.

Before replacing any components separate the rack from both the mains supply and the battery.

6.5.1 General

Before replacing any components it is advisable to take all slide-in units out of the rack and remove any dummy panels.

6.5.2 Replacement of Connectors

Replace connectors as follows:

1. If necessary, remove the rear panel of the rack.
2. Replace connectors with screw terminals as follows:

   - disconnect leads from connector
   - substitute new connector for defective one
   - connect leads again

3. Replace connectors with soldered connections together with the associated cable (see 6.5.3).

6.5.3 Replacement of Cables

Replace cables as follows:

1. If necessary, remove the rear panel and the right-hand side-wall of the rack.
2. Unscrew connectors belonging to a cable or undo the screw terminals.
3. Only detach the cable clamps to the extent necessary, following the course of the cable. Cut open cable ties to the extent necessary using a diagonnal cutter.
4. Take out the defective cable.
5. A new cable is installed in the reverse order.

6.5.4 Replacement of Mains Filter Z1

If part 6.3.3.2 shows line filter Z1 to be defective, replace it as follows:

1. Disconnect cables W1 and W30 from the terminals of the mains filter.
2. Undo the pull-relief clamps and pull out cable W1.
3. Unscrew the mains filter from the base plate. To do this, undo six Phillips screws.
4. Install a new mains filter in the reverse order and reconnect cables W1 and W30.

6.6 Final Test

After cables and/or connectors have been replaced, a final test is absolutely necessary. Proceed as follows:

1. Ensure that all connectors are properly attached to the panels.

2. Ensure that the screw terminals are firmly tightened on the terminal blocks (on base plate) and on the fixed connectors.

3. Ensure that the cable ties, cut for the replacement of cables, have been replaced by new ones.

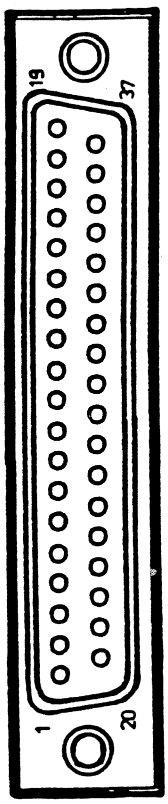
4. Ensure that the retaining screws in the rear panel and side-walls of the rack are firmly in place.

5. Perform the insulation test of the power connection according to 6.3.3.3.

6. If the final test is not satisfactory, the testing and trouble-shooting according to 6.3 will have to be performed again. Repeat the procedure as often as is necessary to detect and eliminate all faults.

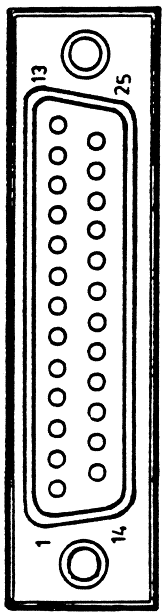
6.7 Interfaces

6.7.1 Internal Interfaces

Interface with Receiver/Exciter GX 859C1		
Connector X2 (on cable W3)	Contact	Signal designation/level
37-way male multipoint connector	1	Ground
	2	Ground
	3	-5 VDC
	4	+7.2 VDC
	5	Not used
	6	Not used
	7	E2 ground
	8	D1 data
	9	TTY demod. remote
	10	TTY mod. remote
	11	S1.2 data
	12	M2
	13	D2
	14	AF mod. a
	15	AF mod. b
	16	AF demod. b
	17	AF demod. a
	18	Spare
	19	TTY ground
	20	Ground
	21	-15 VDC
	22	+15 VDC
	23	+7.2 VDC
	24	Not used
	25	Not used
	26	Spare
	27	S2 data
	28	PTT remote
	29	$\overline{D1}$ data
	30	T data
	31	M1 data
	32	$\overline{D2}$ data
	33	On remote a
	34	On a
	35	On remote b
	36	On b
	37	Not used

(Continuation)---

---(Continuation) Internal Interfaces

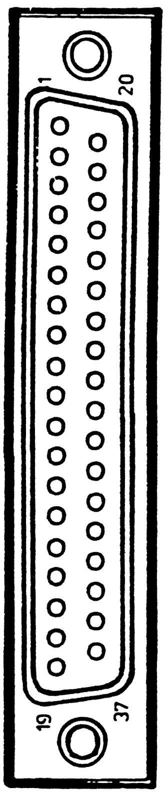
Interface with Receiver/Exciter GX 859C1		
Connector X3 (on cable W8)	Contact	Signal designation/level
25-way male multipoint connector	1	0 VDC
	2	+24 VDC
	3	Ground
	4	Test pin
	5	Test pin
	6	BITE ATU 3
	7	Tune
	8	Strobe
	9	Test pin
	10	ATU on
	11	Tuning pulse
	12	Transmit
	13	CM ATU
	14	0 VDC
	15	+24 VDC
	16	Not used
	17	Not used
	18	Carrier inhibit
	19	BITE ATU 2
	20	BITE ATU 1
	21	Data
	22	Not used
	23	Spare
	24	Shift clock
	25	Frequency inhibit

(Continuation)---

---(Continuation) Internal Interfaces

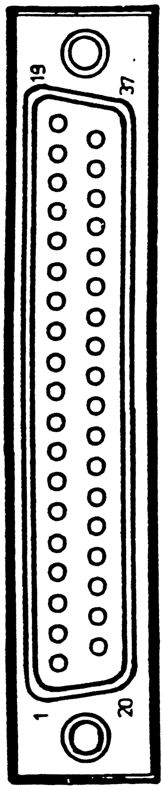
Interface with Receiver/Exciter GX 859C1

Connector X4 (on cable W4)	Contact	Signal designation/level
37-way female multipoint connector	1	Ground (loudspeaker)
	2	CM EXT.
	3	EXT. 4
	4	EXT. 2
	5	Silence
	6	SOFT DECISION b
	7	AGC IF
	8	Transmit
	9	TTY ⊥ ground V.28
	10	TTY transmit V.28
	11	TTY transmit a
	12	AF transmit a
	13	AF receive b
	14	TTY receive b
	15	Receive inhibit
	16	Transmit
	17	Not used
	18	Not used
	19	Ground
	20	Loudspeaker
	21	Spare
	22	Ext. 3
	23	EXT. 1
	24	SOFT DECISION c
	25	SOFT DECISION a
	26	Squelch
	27	F1 transmit
	28	TTY receive V.28
	29	TTY receive a
	30	TTY transmit b
	31	AF transmit b
	32	AF receive a
	33	Test external trigger
	34	CM/BITE NO GO
	35	Not used
	36	Not used
	37	Ground



(Continuation)---

---(Continuation) Internal Interfaces

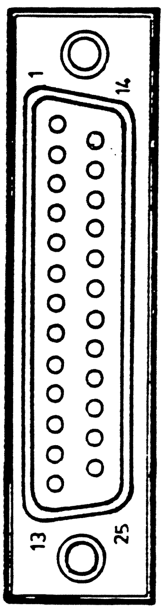
Interface with Receiver/Exciter GX 859C1		
Connector X5 (on cable W7)	Contact	Signal designation/level
37-way male multipoint connector	1	BITE output stage 2
	2	D0 data
	3	D2 data
	4	D4 data
	5	D6 data
	6	BITE temp. amplifier
	7	Carrier inhibit
	8	CM amplifier
	9	TEST
	10	Transmit (PTT)
	11	Ground
	12	Ground
	13	+5.3 VDC
	14	Not used
	15	Not used
	16	Not used
	17	Not used
	18	Not used
	19	Not used
	20	BITE output stage 1
	21	D1 data
	22	D3 data
	23	D5 data
	24	D7 data
	25	STROBE 5
	26	CM RF
	27	BITE amplifier
	28	CM VSWR
	29	-15 VDC
	30	Ground
	31	+15 VDC
	32	Not used
	33	Not used
	34	Not used
	35	Not used
	36	Not used
	37	Not used

(Continuation)---

---(Continuation) Internal Interfaces

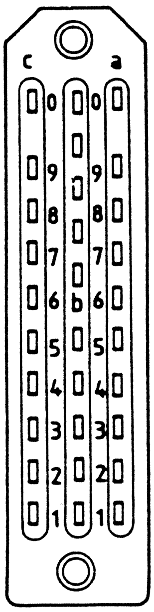
Interface with Receiver/Exciter GX 859C1

Connector X6 (on cable W10)	Contact	Signal designation/level
25-way female multipoint connector	1	Not used
	2	0 VDC
	3	0 VDC
	4	+28 VDC
	5	+28 VDC
	6	Ground
	7	Ground
	8	BITE power supply
	9	Not used
	10	D6
	11	D4
	12	D2
	13	D0
	14	0 VDC
	15	0 VDC
	16	+28 VDC
	17	+28 VDC
	18	Not used
	19	Ground
	20	Not used
	21	Not used
	22	D7
	23	D5
	24	D3
	25	D1



(Continuation)---

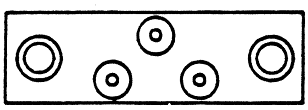
---(Continuation) Internal Interfaces

Interface with Receiver/Exciter GX 859C1		
Connector X100 (on cable W9)	Contact	Signal designation/level
30-way male multipoint connector 	A0	Not used
	B0	Not used
	C0	Not used
	A1	(test pin)
	B1	Ground
	C1	Not used
	A2	Not used
	B2	(test pin)
	C2	Not used
	A3	BITE ATU 3
	B3	BITE ATU 2
	C3	Carrier inhibit
	A4	BITE ATU 1
	B4	Strobe
	C4	Tune
	A5	(test pin)
	B5	Not used
	C5	Data
	A6	ATU on
	B6	Shift clock
	C6	Spare
	A7	Frequency inhibit
	B7	Not used
	C7	Tuning pulse
	A8	Transmit
	B8	Not used
	C8	CM ATU
	A9	Not used
	B9	Not used
	C9	Not used

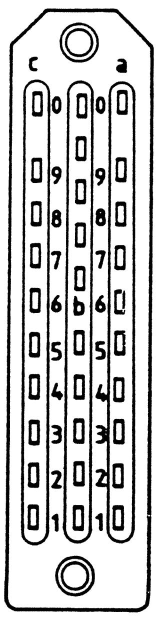
(Continuation)---

---(Continuation) Internal Interfaces

Interface with Power Supply IN 859C1		
Connector X71	Contact	Signal designation/level
3-way plug strip	A	220 VDC
	B	Ground
	C	220 VDC



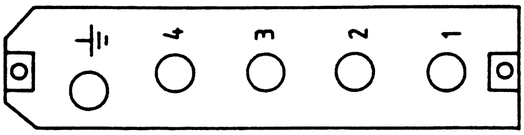
Interface with Power Supply IN 859C1		
Connector X73 (on cable W10)	Contact	Signal designation/level
30-way male multipoint connector	A0	BITE power supply
	B0	Not used
	C0	Not used
	A1	Ground
	B1	Ground
	C1	Ground
	A2	D7
	B2	+28 VDC
	C2	0 VDC
	A3	D6
	B3	+28 VDC
	C3	0 VDC
	A4	D5
	B4	+28 VDC
	C4	0 VDC
	A5	D4
	B5	+28 VDC
	C5	0 VDC
	A6	D3
	B6	Not used
	C6	Not used
	A7	D2
	B7	Not used
	C7	Not used
	A8	D1
	B8	Not used
	C8	Not used
	A9	D0
	B9	Not used
	C9	Not used



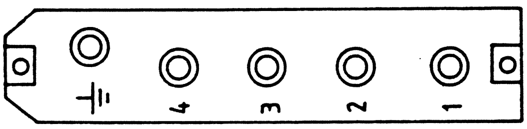
(Continuation)---

---(Continuation) Internal Interfaces

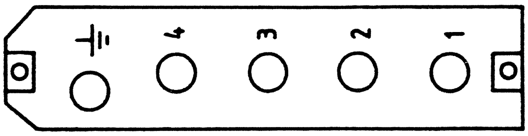
Interface with Power Supply IN 859C1

Connector X74	Contact	Signal designation/level
5-way socket strip	1	Not used
	2	Battery +
	3	Not used
	4	Battery -
	⏚	Not used

Interface with Power Supply IN 859C1

Connector X75	Contact	Signal designation/level
5-way plug strip	1	Ground
	2	40/50 V2
	3	+28 VDC
	4	40/50 V1
	⏚	Ground

Interface with Power Supply IN 859C1

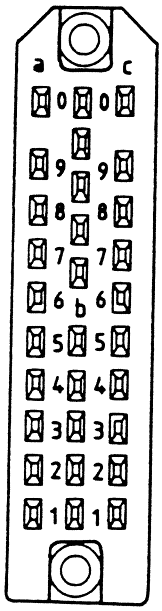
Connector X76	Contact	Signal designation/level
5-way socket strip	1	L1
	2	L2
	3	L3
	4	Not used
	⏚	Ground

(Continuation)---

---(Continuation) Internal Interfaces

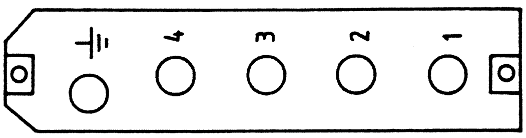
Interface with 1-kW Amplifier VK 859C1

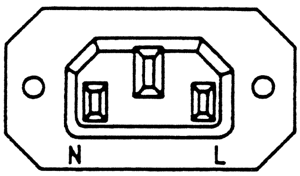
Connector X61 (on cable W7)	Contact	Signal designation/level
30-way female multipoint connector	A0	Not used
	B0	Not used
	C0	Not used
	A1	Ground
	B1	Ground
	C1	Ground
	A2	+5.3 VDC
	B2	-15 VDC
	C2	+15 VDC
	A3	D7 data
	B3	D6 data
	C3	D5 data
	A4	D4 data
	B4	D3 data
	C4	D2 data
	A5	D1 data
	B5	D0 data
	C5	STROBE 5
	A6	TEST
	B6	CM amplifier
	C6	BITE temp. amplifier
	A7	BITE output stage 1
	B7	BITE output stage 2
	C7	BITE amplifier
	A8	CM RF
	B8	CM VSWR
	C8	Carrier inhibit
	A9	Transmit
	B9	Not used
	C9	Not used



(Continuation)---

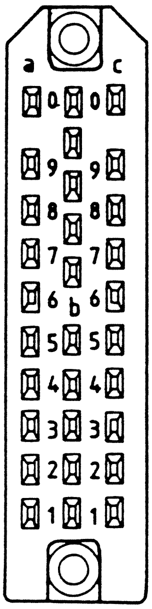
---(Continuation) Internal Interfaces

Interface with 1-kW Amplifier VK 859C1		
Connector X630	Contact	Signal designation/level
5-way socket strip	1	Ground
	2	40/50 V2
	3	+28 VDC
	4	40/50 V1
	⏚	Ground

Interface with 1-kW Amplifier VK 859C1		
Connector X64	Contact	Signal designation/level
Fixed power socket	L	220 VDC
		Ground
	N	220 VDC

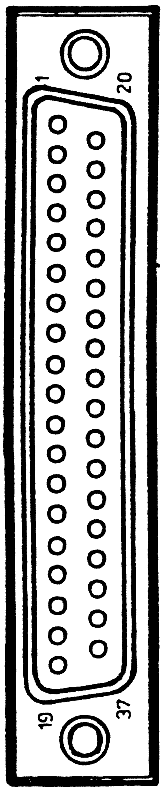
(Continuation)---

---(Continuation) Internal Interfaces

Interface with built-in Line Flattener FK 859C1		
Connector X50 (on cable W8)	Contact	Signal designation/level
30-way female multipoint connector	A0	0 VDC
	B0	0 VDC
	C0	0 VDC
	A1	Test pin
	B1	Ground
	C1	Not used
	A2	Not used
	B2	Test pin
	C2	Not used
	A3	BITE ATU 3
	B3	BITE ATU 2
	C3	Carrier inhibit
	A4	BITE ATU 1
	B4	Strobe
	C4	Tune
	A5	Test pin
	B5	Not used
	C5	Data
	A6	ATU on
	B6	Shift clock
	C6	Spare
	A7	Frequency inhibit
	B7	Not used
	C7	Tuning pulse
	A8	Transmit
	B8	Shift clock
	C8	CM ATU
	A9	+24 VDC
	B9	+24 VDC
	C9	+24 VDC

6.7.2 External Interfaces

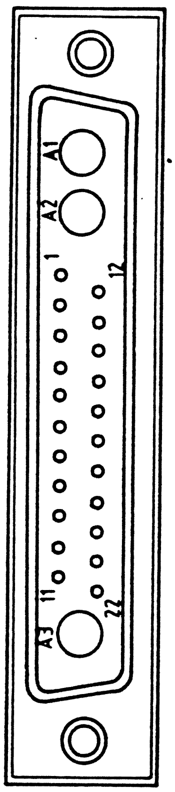
Interface with detached Control Unit GB 853C1		
Connector X12 REMOTE	**Contact**	**Signal designation/level**
37-way female multipoint connector (R&S FM 305.3869)	1	Ground
	2	Ground
	3	-5 VDC
	4	+7.2 VDC
	5	Not used
	6	Not used
	7	E2 ground ⊥
	8	D1 data
	9	TTY demod. remote
	10	TTY mod. remote
	11	S1.2 data
	12	M2
	13	D2
	14	AF mod. a
	15	AF mod. b
	16	AF demod. b
	17	AF demod. a
	18	Spare
	19	TTY ⊥ ground
	20	Ground
	21	-15 VDC
	22	+15 VDC
	23	+7.2 VDC
	24	Not used
	25	Not used
	26	Spare
	27	S2 data
	28	$\overline{\text{PTT}}$ remote
	29	$\overline{\text{D1}}$ data
	30	T data
Mating connector: 37-way male multipoint connector FCT: DCC 37P-FD (R&S FM 657.5242)	31	$\overline{\text{M1}}$ data
	32	$\overline{\text{D2}}$ data
	33	On remote a
	34	On a
	35	On remote b
	36	On b
	37	Not used



(Continuation)---

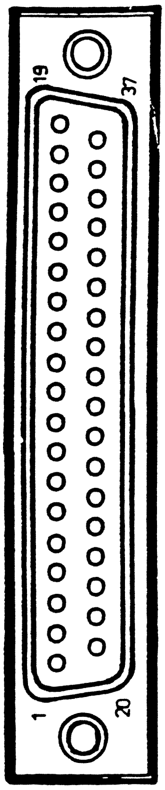
---(Continuation) External Interfaces

Interface with Line Flattener FK 859...

Connector X13 ATU	Contact	Signal designation/level
25-way female multipoint connector	A1	+28 VDC
	A2	0 VDC
	A3	Not used
(R&S FM 645.7874)	1	ATU on
	2	$\overline{\text{Tuning pulse}}$
	3	Transmit
	4	Test pin
	5	Data
	6	Shift clock
	7	Strobe
	8	$\overline{\text{Tune}}$
	9	Carrier inhibit
	10	BITE ATU 1
	11	BITE ATU 2
	12	BITE ATU 3
	13	Test pin
	14	Test pin
	15	Ground
	16	CM ATU
	17	Spare
	18	Frequency inhibit
	19	Not used
	20	Not used
	21	Not used
	22	Not used
Mating connector: 25-way male multipoint connector AMP: 208 742-1 (R&S 520.6244)		

(Continuation)---

---(Continuation) External Interfaces

Interface with external units		
Connector X14 EXTERNal	Contact	Signal designation/level
37-way male multipoint	1	Ground (loudspeaker)
connector	2	CM EXT.
(R&S FM 657.5242)	3	EXT. 4
	4	EXT. 2
	5	Silence
	6	SOFT DECISION b
	7	AGC-IF
	8	Transmit
	9	TTY ground V.28
	10	TTY transmit V.28
	11	TTY transmit a
	12	AF transmit a
	13	AF receive b
	14	TTY receive b
	15	Receive inhibit
	16	Transmit
	17	Not used
	18	Not used
	19	Ground
	20	Loudspeaker
	21	Spare
	22	EXT. 3
	23	EXT. 1
	24	SOFT DECISION c
	25	SOFT DECISION a
	26	Squelch
	27	F1 transmit
	28	TTY receive V.28
	29	TTY receive a
	30	TTY transmit b
Mating connector:	31	AF transmit b
	32	AF receive a
37-way female multipoint	33	Test external trigger
connector	34	CM/BITE NO GO
TRW-CINCH: DDC 37S-FD	35	Not used
(R&S FM 305.3869)	36	Not used
	37	Ground

ROHDE & SCHWARZ

Communications Division

Appendix

CIRCUIT DIAGRAMS
PARTS LISTS
COMPONENTS LAYOUTS

6012.1234 - 5

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	VARIANTENERKL. / VERSIONS VAR 02 = RAL7011 DUNKEL- GRAU MOD 02 = DARK GRAY VAR 03 = RAL6014 GELBOLIV MOD 03 = YELLOW OLIVE VAR 04 = RAL7001 MAR.GRAU MOD 04 = NAVY GRAY				
W1	DX NETZKABEL (W1) MAINS CABLE (W1)	681.4594			
W2	DX 28V-KABEL (W2) 28-V CABLE (W2)	681.3900			
W3	DX LEITUNG-GESCHIRMT(W3) LINE SHIELDED (W3)	681.3917			
W4	DX LEITUNG-GESCHIRMT(W4) LINE SHIELDED (W4)	681.3923			
W5	DX KABEL (W5) CABLE (W5)	681.3930			
W6	DX KABEL (W6) CABLE (W6)	681.3946			
W7	DX LEITUNG-GESCHIRMT(W7) LINE SHIELDED (W7)	681.3952			
W8	DX LEITUNG-GESCHIRMT(W8) LINE SHIELDED (W8)	681.3969			
W9	ENTHALTEN IN/INCLUDED IN 681.3975				
W10	DX LEITUNG-GESCHIRMT(W10) LINE SHIELDED	681.3981			
W19	ENTHALTEN IN/INCLUDED IN 681.3975				
W21	ENTHALTEN IN/INCLUDED IN 681.3881				
W22	ENTHALTEN IN/INCLUDED IN 681.3881				
W23	ENTHALTEN IN/INCLUDED IN 681.3881				
W30	DX NETZKABEL (W30) MAINS CABLE (W30)	681.4607			
X2	BESTEHT AUS/CONSISTING OF CONSISTING OF 37X FM511.8090 1X FM657.5242 1X FM681.5832 2X FM681.5849 1X FM681.5861 1X FM681.5884				681.3917
X3	BESTEHT AUS/CONSISTING OF CONSISTING OF 25X FM511.8090 1X FM511.8077 1X FM681.5826 2X FM681.5849 1X FM681.5861 1X FM681.5884				681.3969
X4	BESTEHT AUS/CONSISTING OF CONSISTING OF 33X FM511.8102 1X FM305.3869 1X FM681.5832 2X FM681.5849 1X FM681.5861 1X FM681.5884				681.3923
X5	BESTEHT AUS/CONSISTING OF CONSISTING OF 37X FM511.8090 1X FM657.5242 1X FM681.5832 2X FM681.5849 1X FM681.5861 1X FM681.5884				681.3952
X6	BESTEHT AUS/CONSISTING OF CONSISTING OF 20X FM511.8102 1X FM511.8083 1X FM681.5826				681.3981

Kennz. Comp.No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
	2X FM681.5849 1X FM681.5855 1X FM681.5878				
X12	BESTEHT AUS/CONSISTING OF CONSISTING OF 37X FM511.8102 1X FM305.3869				681.3917
X13	BESTEHT AUS/CONSISTING OF CONSISTING OF 21X FM520.6338 2X FP531.9233 1X FM645.7874				681.3975
X14	BESTEHT AUS/CONSISTING OF CONSISTING OF 33X FM511.8090 1X FM657.5242				681.3923
X15	BESTEHT AUS/CONSISTING OF CONSISTING OF 4X VK701.7834 4X VK701.7811 1X VK2000.9481 2X VK078.0315 2X VK078.0338 2X VK078.0344 2X VK084.1826 3X VK040.3075				
X17	BESTEHT AUS/CONSISTING OF CONSISTING OF 1X VK701.7834 2X VK2009.9178 2X VK043.7371 2X VK062.0062 2X VK040.3075				
X50	BESTEHT AUS/CONSISTING OF CONSISTING OF 25X FM547.0776 1X FM547.0760				681.3969
X61	BESTEHT AUS/CONSISTING OF CONSISTING OF 26X FM547.0776 1X FM547.0760				681.3952
X62	FJ KABELSTECKER SYST.BNC BNC CONNECTOR	FJ 272.5930	SUHNER	11BNC-50-2-14C	681.3881
X63	FJ KABELSTECKER SYST.BNC BNC CONNECTOR	FJ 272.5930	SUHNER	11BNC-50-2-14C	681.3881
X64	FN EINBAUNETZBUCHSE FIXED SOCKET	FN 530.6047	KLAR&BEIL	GSD 2F QUERFLANSCH	
X71	FM STECKERLEISTE3P.NETZSP	FM 282.6380	COMPACT	C3S 109001	
X73	BESTEHT AUS/CONSISTING OF CONSISTING OF 20X FM552.1102 1X FM552.1090				681.3981
X74	ZM BUCHSENLEISTE 2-POLIG FEMALE MULTIPOINT CONNECT	681.3675			
X75	ZM STECKERLEISTE 5-POLIG MALE MULTIPOINT CONNECTOR	681.3700			
X76	ZM BUCHSENLEISTE 5-POLIG FEMALE MULTIPOINT CONNECT	681.3698			
X100	BESTEHT AUS/CONSISTING OF CONSISTING OF 21X FM552.1102 1X FM552.1090 1X FM087.7754				681.3975
X602	FJ KABELSTECKER SYST.BNC BNC CONNECTOR	FJ 272.5930	SUHNER	11BNC-50-2-14C	681.3881
X620	BESTEHT AUS/CONSISTING OF CONSISTING OF 3X FJ017.7161 1X FJ063.5645				681.3881
X630	ZM BUCHSENLEISTE 5-POLIG FEMALE MULTIP.CONNECT.5-W	681.4994			
Z1	LD NETZF.16A 249X73X68 B84299-K55	520.6396	SIEMENS	B84299-K55	
					- ENDE -