



Powered & passive loudspeaker systems

hurricane

service manual schematic diagrams

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Notice

Service must be carried out by qualified personnel only. Any tampering carried out by unqualified personnel during the guarantee period will forfeit the right to guarantee.

For a correct operation of the instrument, after having switched off, be careful to wait at least 3 seconds before switching on again.

To improve the device's specifications, the schematic diagrams may be subject to change without prior notice.

All components marked by this symbol have special safety characteristics, when replacing any of these components use only manufacturer's specified parts.

The (μ) micro symbol of capacitance value is substituted by U.

The (Ω) omega symbol of resistance value is substituted by E.

The electrolytic capacitors are 25Vdc rated voltage unless otherwise specified.

All resistors are 1/8W unless otherwise specified.

All switches shown in the "OFF" position. All DC voltages measured to ground with a voltmeter 20KOhm/V.

← Soldering point.

• Male connector.

○ Female connector.

— M/F faston connector.

↑ Supply voltage.

□ Test point.

⎓ Flag joined with one or more flags with the same signal name inscribed.

⏏ Logic supply ground.

⏏ Analog supply ground.

⏏ Chassis ground.

⏏ Earth ground.



ATTENTION Observe precautions when handling electrostatic sensitive devices.



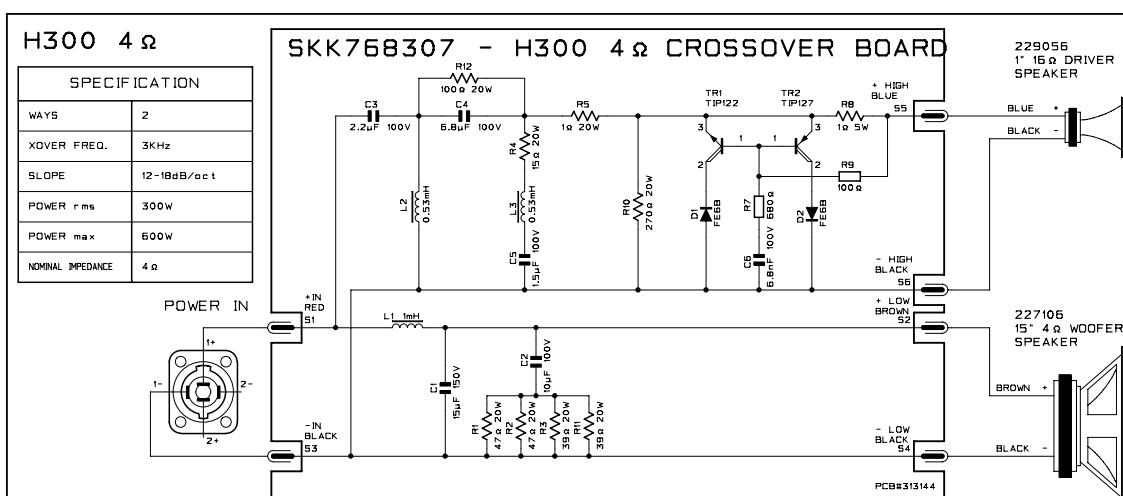
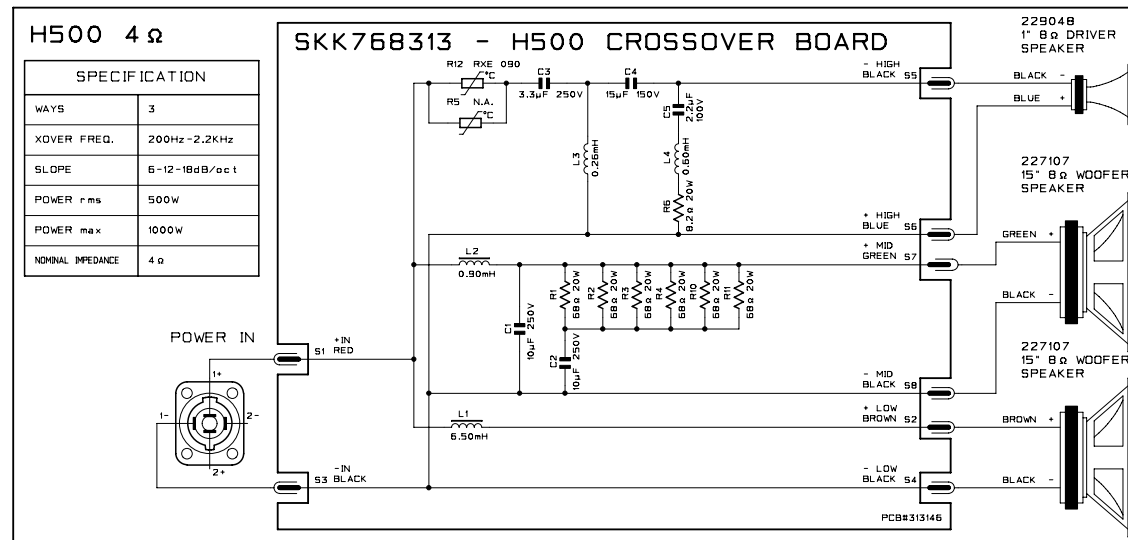
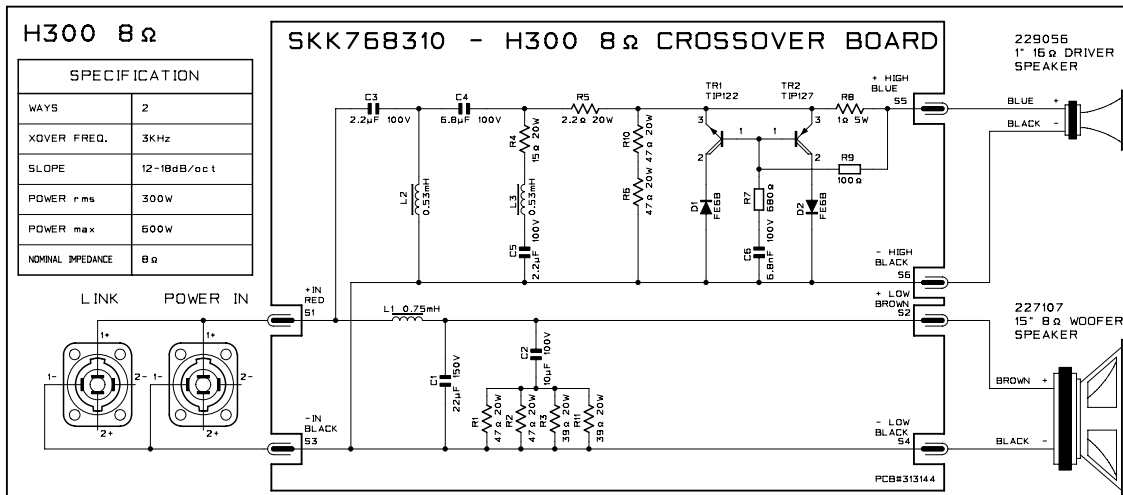
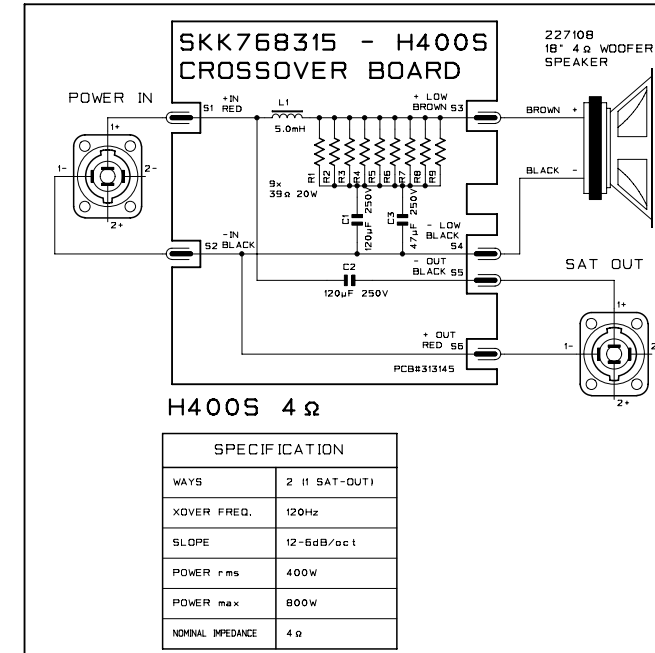
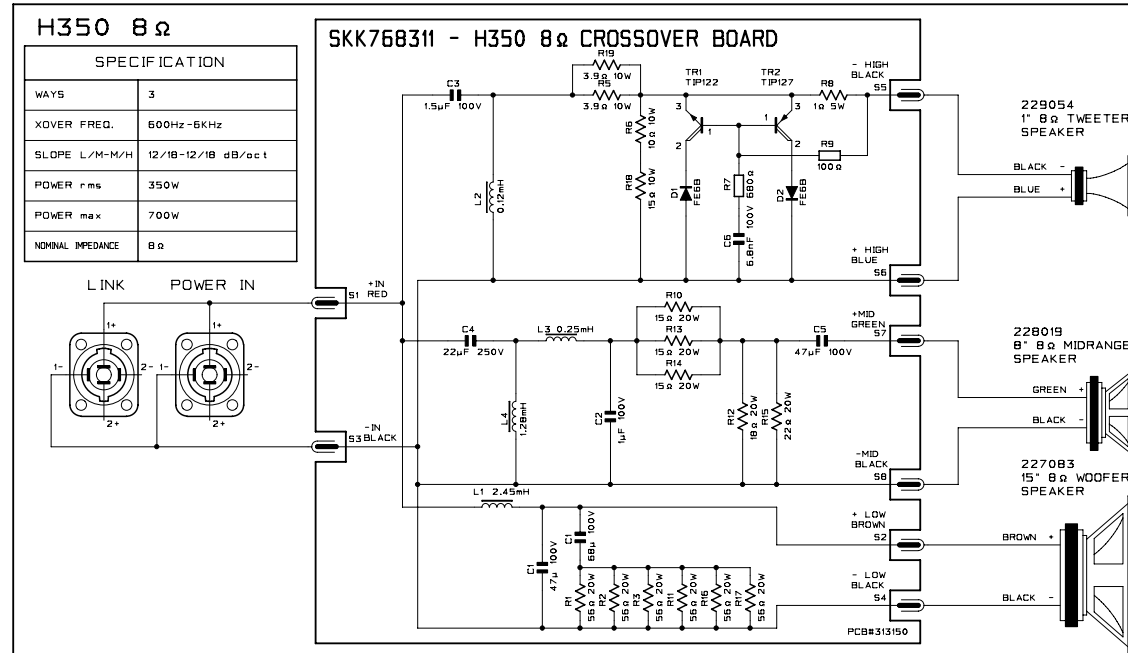
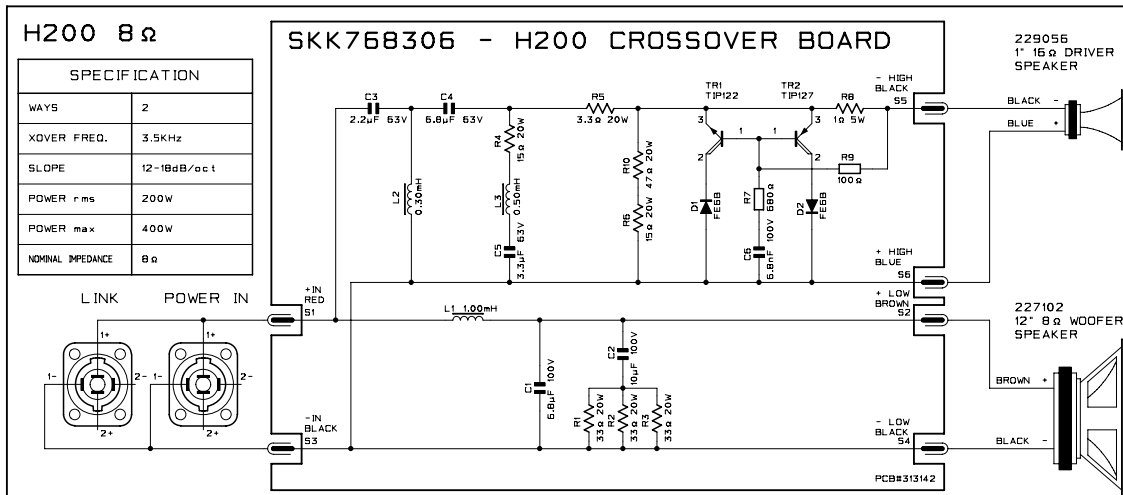
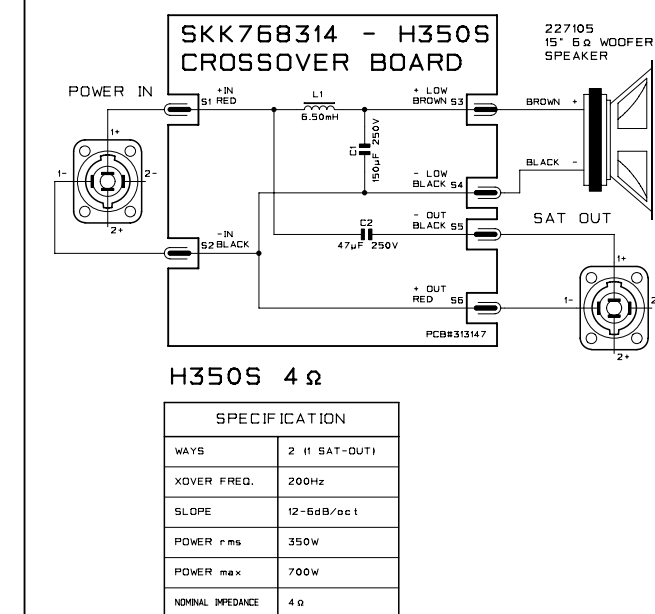
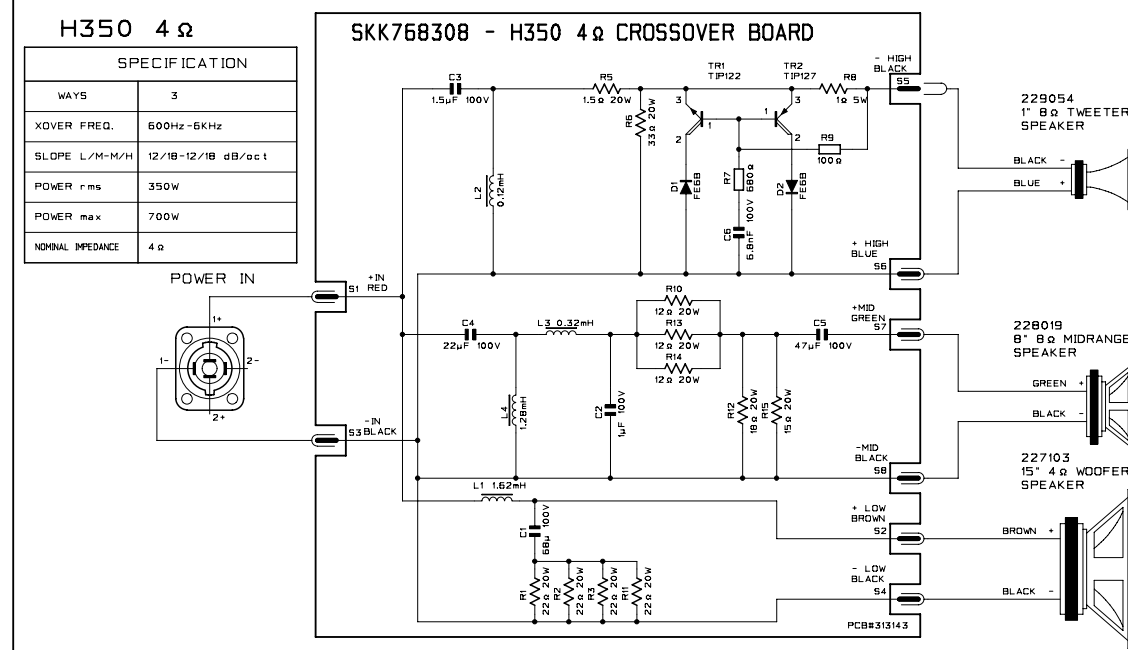
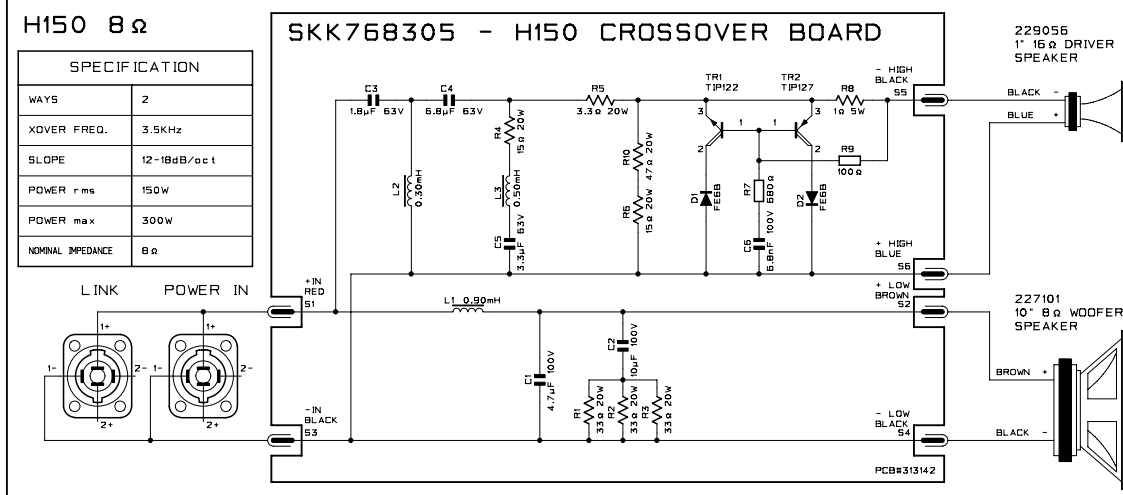
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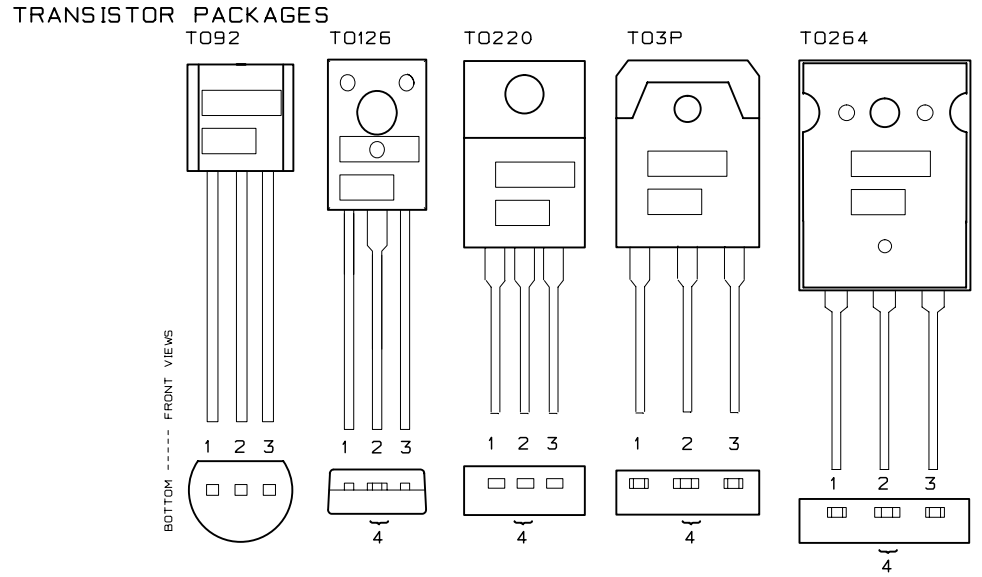
Technical Data

| loudspeaker models | | H150 / H150A | | H200 / H200A | | H300 / H300A | | H350 / H350A | | H500 | | H350S / H350SA | | H400S / H400SA | | H100MA | | H200MA | | H300MA | |
|------------------------------------|------|--|--|--------------------------|--|-------------------------|--|---------------------------------------|--|---------------------------------------|--|---|--|-------------------------|--|----------------------------------|--|-------------------------|--|-------------------------|--|
| components | high | 1" driver on EWT horn | | | | 1,5" supertweeter | | 1" driver on EWT horn | | - | | | | - | | 1" driver on EWT horn | | | | | |
| | mid | - | | | | 8" midrange | | - | | | | | | 8" full-range | | - | | | | | |
| | low | 10" woofer | | 12" woofer | | 15" woofer | | 15" woofer | | 2 x 15" woofer | | 15" woofer | | 18" woofer | | - | | 12" woofer | | 15" woofer | |
| power handling (EIA RS-426A) | | 150W cont. 300W peak | | 200W cont. 400W peak | | 300W cont. 600W peak | | 350W cont. 700W peak | | 500W cont. 1000W peak | | 350W cont. 700W peak | | 400W cont. 800W peak | | - | | | | | |
| impedance | | 8 Ohm | | 8 Ohm | | 4 / 8 Ohm | | 4 / 8 Ohm | | 4 Ohm | | 4 Ohm | | 4 Ohm | | - | | | | | |
| passive crossover | | 3,5 kHz 12/18dB/oct. | | 3,5 kHz 12/18 dB/oct. | | 3 kHz 12/18 dB/oct. | | 6kHz @ 18dB/oct. 600Hz @ 12dB/oct. | | 200Hz@ 6dB/oct. 2.2kHz@12/18dB/oct | | 200Hz 6/6 dB/oct. | | 120 Hz 6/6 dB/oct. | | - | | 3,5 kHz 12/18dB/oct. | | - | |
| connections | | 1/2 SPEAKON | | | | | | | | | | | | | | - | | | | | |
| construction | | high-density poplar chipboard with scratch-resistant gark grey carpet - Metal grid - 1/2 handles - Speaker stand adapter | | | | | | | | | | | | | | | | | | | |
| dimensions mm (LxAxP) | | 340x460x285 | | 390x508x325 | | 455x580x405 | | 455x790x405 | | 485x1060x435 | | 475x555x520 | | 625x540x545 | | 305x395x275 | | 390x508x325 | | 455x580x405 | |
| weight (passive / active) | | 14kg / 18,5kg | | 17kg / 22kg | | 23kg / 27,5kg | | 29kg / 33,5kg | | 40kg | | 29,5kg / 35,6kg | | 38kg / 43kg | | 13kg | | 20,5kg | | 27kg | |
| amplifier specifications | | H150A | | H200A | | H300A | | H350A | | H350SA | | H400SA | | H100MA | | H200MA | | H300MA | | | |
| input | | sensitivity 0 dB (nominal) impedance 20 kOhms (balanced) | | | | | | | | | | | | | | | | | | | |
| active crossover | | - | | - | | 3.5Khz@ 12/18dB/oct. | | 6Khz@ 12/12dB/oct. | | - | | 80-320Hz/-3dB @ 12dB/oct. | | 80-320Hz@ 12dB/oct. | | - | | - | | 3.5Khz@ 12/18dB/oct. | |
| power output EIA (1kHz, THD 1%) | | 150Watt | | 200Watt | | 50W high 250W low | | 80W high 270W low | | - | | 350Watt | | 400Watt | | 100Watt | | 200Watt | | 50W high 250W low | |
| distortion | | <0.02 % | | | | | | | | | | | | | | | | | | | |
| controls | | volume - SHIELD | | | | | | | | - | | volume - SHIELD - Xover freq. | | | | volume - SHIELD | | | | | |
| connectors | | 1 x XLR-F + 1 x JACK in parallel | | | | | | | | - | | 2 x JACK + XLR-F (in) 2 x JACK + XLR-M (out) | | | | 1 x XLR-F + 1 x JACK in parallel | | | | | |
| power supply | | see label | | | | | | | | | | | | | | | | | | | |
| system specifications | | H150 / H150A | | H200 / H200A | | H300 / H300A | | H350 / H350A | | H500 | | H350S / H350SA | | H400S / H400SA | | H100MA | | H200MA | | H300MA | |
| frequency response (-10dB) | | 60Hz-20kHz | | 55Hz-20kHz | | 48Hz-20kHz | | 38Hz-25kHz | | 40Hz-20kHz | | 38Hz-300Hz | | 32Hz-300Hz | | 65Hz-20kHz | | 55Hz-20kHz | | 48Hz-20kHz | |
| MAX SPL continuous sens. | | 117 dB | | 120 dB | | 123 dB | | 122 dB | | 122 dB | | 122 dB | | 122 dB | | 114 dB | | 120 dB | | 123 dB | |
| dispersion | | 60°x40° | | 60°x40° | | 60°x40° | | 120°x40° | | 60°x40° | | - | | - | | 90°x90° | | 60°x40° | | 60°x40° | |



General Precaution

- To prevent short circuit during any test, **the oscilloscope must be EARTH insulated**, this occurs because some test require to connect its probe to the amplifier output, non-compliance may cause damages to oscilloscope inputs circuitry.
- Before removing or installing any modules and connectors, disconnect the amplifier from AC MAINS and measure the DC supply voltages across each of the power supply capacitors. If your measurement on any of the caps is greater than 10Vdc, connect a 100Ω 10W resistor across the applicable caps to discharge them for your safety. Remember to remove the discharge resistor immediately after discharging caps. Do not power up the amplifier with the discharge resistor connected.
- Read these notes entirely before proceeding to any operation. These notes are not comprehensive of all damages that possibly occur, but includes some specifically advices, checks and adjustments relative to this amplified speaker.
- Do not check the amplifier with the speaker connected use only an appropriate load resistor.
- BE CAREFUL increasing the Variac you must not exceed the nominal mains voltage plus its tolerance (see specifications) any upper voltage can be cause of damage.



Visual Check

- Check the speakers for any damaging (cone-breaking, interruption or so).
- Before proceed to supply the amplifier check visually the internal assembly, if appears an evident damage find the most possible reasons that cause it.
- Check the wiring cables for possible interruptions or shorts.
- If the damage has burnt a printed circuit board don't try to repair it, replace with a new one.

Test Instruments

- Audio Generator
- Dual Trace Oscilloscope
- Digital Multimeter
- Temperature Meter
- 8Ω 500W, 4Ω 500W, 100Ω 10W resistors
- Variac (0÷250Vac)

H100MA CHECKING & ADJUSTMENTS

The following adjustment and notes are relative to these models only.

Technical Specifications

| | | |
|-----------------------|---------------------------------|---------------|
| Dimensions: |H100MA (WxHxD) | 305x395x275mm |
| Weight: |H100MA..... | 13Kg |
| Power Requirements: |(230Vac±10% 50Hz) | 150VA |
| |(115Vac±10% 50/60Hz) | 150VA |
| Output Power*: |(8Ω) | 90W |
| Max.Undistorted Out*: |(8Ω) | 76Vpp |
| Sensitivity: |H100MA (1W/1m) | 92.6dBsPL |
| Max SPL: |H100MA (continuous) | 112dBsPL |
| |H100MA (peak)..... | 115dBsPL |
| Frequency Response |(amplifier+speaker)..... | 65Hz÷20KHz |
| |(only amplifier -3dB)..... | 10Hz÷60KHz |
| Input Sensitivity: |(0dB)..... | 0.775VRMS |
| Input Impedance: |(balanced)..... | 30KΩ |
| |(unbalanced) | 15KΩ |
| Voltage Gain: | ..... | 31±1dB |
| IMD: |(SMPTE 60Hz/7KHz 4:1)..... | <0.1% |

| | | |
|---|-------------------------|--------|
| THD: |(THD+N)..... | <0.1% |
| S/N Ratio: |(unweighted) | >100dB |
| *Note: measured with the limiter enabled. | | |

Setup

- Verify, with the Multimeter, the insulation between the heatsink and the transistors collectors. Also see Advices section.
- Verify, with the Multimeter, the PTC resistor value (TH1), it must be between 50Ω and 200Ω.
- Connect the Variac between the mains and the amplifier and set it at zero voltage.
- Connect the audio generator to the channel input and set it to 1kHz 775mVRMS (0dB) sinusoidal signal.
- Place the temperature sensor between heatsink and the PTC (TH1).
- Connect the CH1 scope GND clip to CN4 pin 1 (SGND terminal) and the probe tip to R50 side RL1 (PWR out), set it to 20V/div. 1mS/div.
- Connect the CH2 probe tip to R58 side C28 and set its sensitivity at 0.2V/div.
- Set the LEVEL potentiometer full clockwise.
- The load resistor is disconnected.
- The procedures that follow must be executed subsequently in the order specified.

Supply Check

- Remove the transformer secondary fuses (located on SUPPLY board), set the Variac to the nominal mains voltage, check with the Multimeter the AC supply voltages:
F1-F2=71±2Vac
- Re-set the Variac at zero voltage, turn off the amplifier and put the fuses back on its holders.
- Set up the Variac slowly monitoring the Outputs with the oscilloscope CH1 connected, starts from 2/3 of nominal mains voltage it should display the sinusoidal input signal amplified with no distortions, if a distortion occur or the protection trips, turn off the amplifier and check the AMPLIFIER board as suggested in the ADVICES section.
- Finally verify the DC supplies on SUPPLY board:
CN4 pin 2 (+Vcc1) =+50±2Vdc
CN5 pin 1-2 (-Vcc1) =-50±2Vdc
CN4 pin 4 =+15±1Vdc
CN4 pin 5 =-15±1Vdc
- If one or more voltages don't correspond, check the rectifiers, capacitors and transformers disconnecting them from circuitry, refer to schematics.

Channel Check

VOLTAGE AMPLIFIER TEST:

- Increase slowly the Variac. The channel output signals must be symmetrical respect the GND without visible distortion and oscillation. If there is a distortion read the section ADVI-CES.

CURRENT AMPLIFIER TEST:

- Connect the 8Ω 500W load on the output and repeat the test.

LIMITER CHECK:

- Increase the input signal of 10 dB and verify the output voltage and wave shape remain constant.

BIAS ADJUSTMENT:

- With resistive load connected wait until the temperature reach 50°c.
- Set the generator level at zero, connect the Multimeter across the R50 and R53 resistors, then adjust VR1 trimmer to read 5±0.1mVdc.

BANDWIDTH CHECK:

- Switch alternatively the generator frequency to 100Hz and 10kHz, no level changes must be detectable respect 1kHz.
- Switch the generator frequency to 30Hz and verify the output level decreases abruptly respect to 1 KHz level.

OFFSET SENSOR CHECK:

- Set the Variac to zero voltage output, disconnect resistive load from the amplifier output, connect temporarily (by means of a suitable conductor wire) CN4 pin 4 (+15Vdc) to R72 side RL1, the protection circuitry (Q14,15,16) detect the DC voltage and open the output relay (RL1) within 3 seconds approx.
- Remove the connection, wait until the relay switch on and after some seconds repeat the check with -15Vdc (available on CN4 pin 5), the protection circuitry must open the relay again.

SIGNAL TO NOISE RATIO CHECK:

- Disconnect the audio generator and short the input (pin 1,2,3 of XLR socket shorted) the output signal (noise) must be less than 1mV.

H150A H200A H200MA CHECKING & ADJUSTMENTS

The following adjustment and notes are relative to these models only.

Technical Specifications

| | | |
|---|--------------------------------------|---------------|
| Dimensions: |H150A (WxHxD)..... | 340x460x285mm |
| |H200A (WxHxD)..... | 390x508x325mm |
| |H200MA (WxHxD) | 390x508x325mm |
| Weight: |H150A | 18.5Kg |
| |H200A | 22Kg |
| |H200MA..... | 20.5Kg |
| Power Requirements: |(230Vac±10% 50Hz) | 180VA |
| |(115Vac±10% 50/60Hz) | 180VA |
| Output Power*: |(8Ω) | 136W |
| Max.Undistorted Out*: |(8Ω) | 93Vpp |
| Sensitivity: |H150A (1W/1m)..... | 92.5dBsPL |
| |H200A H200MA (1W/1m) | 96.4dBsPL |
| Max SPL: |H150A (continuous)..... | 114dBsPL |
| |H150A (peak) | 117dBsPL |
| |H200A H200MA (continuous) | 118dBsPL |
| |H200A H200MA (peak)..... | 121dBsPL |
| Frequency Response |H150A (amplifier+speaker)..... | 60Hz÷20KHz |
| |H200A (amplifier+speaker)..... | 55Hz÷20KHz |
| |(only amplifier -3dB)..... | 10Hz÷60KHz |
| Input Sensitivity: |(0dB)..... | 0.775VRMS |
| Input Impedance: |(balanced)..... | 30KΩ |
| |(unbalanced) | 15KΩ |
| Voltage Gain: | ..... | 33±1dB |
| IMD: |(SMPTE 60Hz/7KHz 4:1)..... | <0.1% |
| THD: |(THD+N)..... | <0.1% |
| S/N Ratio: |(unweighted) | >100dB |
| *Note: measured with the limiter enabled. | | |

Setup

- Verify, with the Multimeter, the insulation between the heatsink and the transistors collectors. Also see Advices section.
- Verify, with the Multimeter, the PTC resistor value (TH1), it must be between 50Ω and 200Ω.
- Connect the Variac between the mains and the amplifier and set it at zero voltage.
- Connect the audio generator to the channel input and set it to 1kHz 775mVRMS (0dB) sinusoidal signal.
- Place the temperature sensor between heatsink and the PTC (TH1).
- Connect the CH1 scope GND clip to CN4 pin 1 (SGND terminal) and the probe tip to R50 side RL1 (PWR out), set it to 20V/div. 1mS/div.
- Connect the CH2 probe tip to R58 side C28 and set its sensitivity at 0.2V/div.
- Set the LEVEL potentiometer full clockwise.
- The load resistor is disconnected.
- The procedures that follow must be executed subsequently in the order specified.

Supply Check

- Remove the transformer secondary fuses (located on SUPPLY board), set the Variac to the nominal mains voltage, check with the Multimeter the AC supply voltages:
F1-F2=90±2Vac
- Re-set the Variac at zero voltage, turn off the amplifier and put the fuses back on its holders.
- Set up the Variac slowly monitoring the Outputs with the oscilloscope CH1 connected, starts from 2/3 of nominal mains voltage it should display the sinusoidal input signal amplified with no distortions, if a distortion occur or the protection trips, turn off the amplifier and check the AMPLIFIER board as suggested in the ADVICES section.
- Finally verify the DC supplies on SUPPLY board:
CN4 pin 2 (+Vcc1) =+63±2Vdc
CN5 pin 1-2 (-Vcc1) =-63±2Vdc
CN4 pin 4 =+15±1Vdc
CN4 pin 5 =-15±1Vdc
- If one or more voltages don't correspond, check the rectifiers, capacitors and transformers disconnecting them from circuitry, refer to schematics.

Channel Check

VOLTAGE AMPLIFIER TEST:

- Increase slowly the Variac. The channel output signals must be symmetrical respect the GND without visible distortion and oscillation. If there is a distortion read the section ADVI-CES.

CURRENT AMPLIFIER TEST:

- Connect the 8Ω 500W load on the output and repeat the test.

LIMITER CHECK:

- Increase the input signal of 10 dB and verify the output voltage and wave shape remain constant.

BIAS ADJUSTMENT:

- With resistive load connected wait until the temperature reach 50°c.

- Set the generator level at zero, connect the Multimeter across the R50 and R53 resistors, then adjust VR1 trimmer to read 5±0.1mVdc.

BANDWIDTH CHECK:

- Switch alternatively the generator frequency to 100Hz and 10kHz, no level changes must be detectable respect 1kHz.
- Switch the generator frequency to 30Hz and verify the output level decreases abruptly respect to 1 KHz level.

OFFSET SENSOR CHECK:

- Set the Variac to zero voltage output, disconnect resistive load from the amplifier output, connect temporarily (by means of a suitable conductor wire) CN4 pin 4 (+15Vdc) to R72 side RL1, the protection circuitry (Q14,15,16) detect the DC voltage and open the output relay (RL1) within 3 seconds approx.
- Remove the connection, wait until the relay switch on and after some seconds repeat the check with -15Vdc (available on CN4 pin 5), the protection circuitry must open the relay again.

SIGNAL TO NOISE RATIO CHECK:

- Disconnect the audio generator and short the input (pin 1,2,3 of XLR socket shorted) the output signal (noise) must be less than 1mV.

H300A H300MA CHECKING & ADJUSTMENTS

The following adjustment and notes are relative to these models only.

Technical Specifications

| | | |
|---|--------------------------------------|---------------|
| Dimensions: | H300A (WxHxD)..... | 455x580x405mm |
| ..... | H300MA (WxHxD) | 455x580x405mm |
| Weight: | H300A | 27.5Kg |
| ..... | H300MA | 27Kg |
| Power Requirements: | (230Vac±10% 50Hz) | 310VA |
| ..... | (115Vac±10% 50/60Hz) | 310VA |
| Output Power*:..... | (4Ω/8Ω)..... | 230W/80W |
| Max.Undistorted Out*: | (4Ω/8Ω)..... | 85Vpp/71Vpp |
| Active crossover:..... | (frequency Hz @ slope dB/oct.) | 3.5K@12/18 |
| Sensitivity: | H300A H300MA (1W/1m) | 97.3dBsPL |
| Max SPL: | H300A H300MA (continuous) | 121dBsPL |
| ..... | H300A H300MA (peak)..... | 124dBsPL |
| Frequency Response | (amplifier+speaker)..... | 48Hz÷20KHz |
| ..... | (only amplifier -3dB)..... | 10Hz÷60KHz |
| Input Sensitivity:..... | (0dB)..... | 0.775VRMS |
| Input Impedance:..... | (balanced)..... | 30KΩ |
| ..... | (unbalanced) | 15KΩ |
| Voltage Gain: ..... | ..... | 32±1dB |
| IMD: | (SMPTE 60Hz/7KHz 4:1)..... | <0.1% |
| THD: | (THD+N)..... | <0.1% |
| S/N Ratio: | (unweighted) | >100dB |
| *Note: measured with the limiter enabled. | | |

Remarks

- This is a bi-amplified speaker, the more powerful amplifier is for the low frequency range (woofer), the less powerful amplifier is for the high frequency range (compression HF driver).
- The power supply of the first amplifier utilizes a dual bipolar DC rail configuration with low and high voltages; one positive and one negative low rail (+/-Vcc1) and one positive and one negative high rail (+/-Vcc2). The second amplifier is supplied by means the onlylow rail (+/-Vcc1).

Setup

- Verify, with the Multimeter, the insulation between the heatsink and the transistors collectors. Also see Advices section.
- Verify, with the Multimeter, the PTC resistor value (TH1), it must be between 50Ω and 200Ω.
- Connect the Variac between the mains and the amplifier and set it at zero voltage.
- Connect the audio generator to the channel input and set it to 2kHz 775mVRMS (0dB) sinusoidal signal.
- Place the temperature sensor between heatsink and the PTC (TH1).
- Connect the CH1 scope GND clip to CN1 pin 1 (SGND terminal) and the probe tip to R60 side RL1 (LF PWR out), set it to 20V/div. 1mS/div.
- Connect the CH2 probe tip to R260 side IC202 (HF PWR out) and set its sensitivity at 20V/div.
- Set the LEVEL potentiometer full clockwise.
- The load resistor is disconnected.
- The procedures that follow must be executed subsequently in the order specified.

Supply Check

- Remove the transformer secondary fuses (located on SUPPLY board), set the Variac to the nominal mains voltage, check with the Multimeter the AC supply voltages:

- F1-F2=86±2Vac
F4-F5=62±1.5Vac.
- Re-set the Variac at zero voltage, turn off the amplifier and put the fuses back on its holders.
- Set up the Variac slowly monitoring the Outputs with the oscilloscope CH1 and CH2 connected, starts from 2/3 of nominal mains voltage it should display the sinusoidal input signal amplified with no distortions, if a distortion occur or the protection trips check the AMPLIFIER board as suggested in the ADVICES section.
- Finally verify the DC supplies on SUPPLY board:
 - CN1 pin 2 (+Vcc2) =+60±2Vdc
 - CN2 pin 3 (+Vcc1) =+43±1.5Vdc
 - CN2 pin 1 (-Vcc1) =-43±1.5Vdc
 - CN2 pin 2 (-Vcc2) =-60±2Vdc
 - CN1 pin 4 =+15±1Vdc
 - CN1 pin 5 =-15±1Vdc
- If one or more voltages don’t correspond, check the rectifiers, capacitors and transformers disconnecting them from circuitry, refer to schematics.

Low Frequency Channel Check

- Set the audio generator to 500Hz 775mVRMS (0dB) sinusoidal signal.
- Connect the CH2 probe tip to D22 cathode and set its sensitivity at 20V/div.

LOW RAIL VOLTAGE AMPLIFICATION TEST:

- Increase slowly the Variac. The channel output signals must be symmetrical respect the GND without visible distortion and oscillation as shown in Fig.1 Trace A (Trace B shown the amplifier 2nd stage input R58 side C28). If there is a distortion read the section ADVICES.

HIGH RAIL VOLTAGE AMPLIFICATION TEST:

- When the output signal (Positive half-wave) is less than 34Vp the voltage on D22 cathode must remain constant at 40V, when the output signal exceeds 34Vp the voltage must follow the output signal with 6V offset (see Fig.2 Trace B), to check the negative high rail connect the probe to D26 anode (see Fig.2 Trace C).

LOAD CURRENT TEST:

- Connect the 4Ω 500W load on the output and repeat the LOW RAIL and HIGH RAIL tests.

LIMITER CHECK:

- Increase the input signal of 10 dB and verify the output voltage and wave shape remain constant.

BIAS ADJUSTMENT:

- With resistive load connected wait until the temperature reach 50°C.
- Set the level at zero, connect the Multimeter across the resistors R60, then adjust VR1 trimmer to read 6±0.1mVdc.

BANDWIDTH CHECK:

- Disconnect the load. Set the generator at -10dB, sweeping the generator frequency from 10Hz to 10kHz the level changes accordingly Figure 4 (1a).

OFFSET SENSOR CHECK:

- Set the Variac to zero voltage output, disconnect resistive load from the amplifier output, connect temporarily (by means of a suitable conductor wire) CN1 pin 4 (+15Vdc) to R72 side RL1, the protection circuitry (Q14,15,16) detect the DC voltage and open the output relay (RL1) within 3 seconds approx.
- Remove the connection, wait until the relay switch on and after some seconds repeat the check with -15Vdc (available on CN1 pin 5), the protection circuitry must open the relay again.

SIGNAL TO NOISE RATIO CHECK:

- Disconnect the audio generator and short the input (pin 1,2,3 of XLR socket shorted) the output signal (noise) must be less than 1mV.

High Frequency Channel Check

- Verify, with the Multimeter, the insulation between the heatsink and the TDA7294 case.
- Set the audio generator to 5KHz 775mVRMS (0dB) sinusoidal signal.
- Connect the CH2 probe tip to R260 side IC202 (HF PWR out) and set its sensitivity at 20V/div. 200µS/div.

VOLTAGE AMPLIFICATION TEST:

- Increase slowly the Variac. The channel output signals must be symmetrical respect the GND without visible distortion and oscillation. If there is a distortion replace the TDA7294.

LOAD CURRENT TEST:

- Connect the 8Ω 500W load on the output and repeat the test.

LIMITER CHECK:

- Increase the input signal of 10 dB and verify the output voltage and wave shape remain constant.

BANDWIDTH CHECK:

- Disconnect the load. Set the generator at -10dB, sweeping the generator frequency from 10Hz to 10kHz the level changes accordingly Figure 4 (1b).

SIGNAL TO NOISE RATIO CHECK:

- Disconnect the audio generator and short the input (pin 1,2,3 of XLR socket shorted) the output signal (noise) must be less than 1mV.

H350A CHECKING & ADJUSTMENTS

The following adjustment and notes are relative to these models only.

Technical Specifications

| | | |
|---|--------------------------------------|---------------|
| Dimensions: | H350A (WxHxD)..... | 455x790x405mm |
| Weight: | H350A | 33.5Kg |
| Power Requirements: | (230Vac±10% 50Hz) | 310VA |
| ..... | (115Vac±10% 50/60Hz) | 310VA |
| Output Power*:..... | (4Ω/8Ω)..... | 230W/80W |
| Max.Undistorted Out*: | (4Ω/8Ω)..... | 85Vpp/71Vpp |
| Active crossover:..... | (frequency Hz @ slope dB/oct.) | 600@18/18 |
| Sensitivity: | H350A (1W/1m)..... | 96.7dBsPL |
| Max SPL: | H350A (continuous) | 121dBsPL |
| ..... | H350A (peak) | 124dBsPL |
| Frequency Response | (amplifier+speaker)..... | 38Hz÷20KHz |
| ..... | (only amplifier -3dB)..... | 10Hz÷60KHz |
| Input Sensitivity:..... | (0dB)..... | 0.775VRMS |
| Input Impedance:..... | (balanced)..... | 30KΩ |
| ..... | (unbalanced) | 15KΩ |
| Voltage Gain: ..... | ..... | 32±1dB |
| IMD: | (SMPTE 60Hz/7KHz 4:1)..... | <0.1% |
| THD: | (THD+N)..... | <0.1% |
| S/N Ratio: | (unweighted) | >100dB |
| *Note: measured with the limiter enabled. | | |

Remarks

- This is a bi-amplified speaker, the more powerful amplifier is for the low frequency range (woofer), the less powerful amplifier is for the high frequency range (midrange and tweeter).
- The power supply of the first amplifier utilizes a dual bipolar DC rail configuration with low and high voltages; one positive and one negative low rail (+/-Vcc1) and one positive and one negative high rail (+/-Vcc2). The second amplifier is supplied by means the onlylow rail (+/-Vcc1).

Setup

- Verify, with the Multimeter, the insulation between the heatsink and the transistors collectors. Also see Advices section.
- Verify, with the Multimeter, the PTC resistor value (TH1), it must be between 50Ω and 200Ω.
- Connect the Variac between the mains and the amplifier and set it at zero voltage.
- Connect the audio generator to the channel input and set it to 2kHz 775mVRMS (0dB) sinusoidal signal.
- Place the temperature sensor between heatsink and the PTC (TH1).
- Connect the CH1 scope GND clip to CN1 pin 1 (SGND terminal) and the probe tip to R60 side RL1 (LF PWR out), set it to 20V/div. 1mS/div.
- Connect the CH2 probe tip to R260 side IC202 (HF PWR out) and set its sensitivity at 20V/div.
- Set the LEVEL potentiometer full clockwise.
- The load resistor is disconnected.
- The procedures that follow must be executed subsequently in the order specified.

Supply Check

- Remove the transformer secondary fuses (located on SUPPLY board), set the Variac to the nominal mains voltage, check with the Multimeter the AC supply voltages:
 - F1-F2=86±2Vac
F4-F5=62±1.5Vac.
- Re-set the Variac at zero voltage, turn off the amplifier and put the fuses back on its holders.
- Set up the Variac slowly monitoring the Outputs with the oscilloscope CH1 and CH2 connected, starts from 2/3 of nominal mains voltage it should display the sinusoidal input signal amplified with no distortions, if a distortion occur or the protection trips check the AMPLIFIER board as suggested in the ADVICES section.
- Finally verify the DC supplies on SUPPLY board:
 - CN1 pin 2 (+Vcc2) =+60±2Vdc
 - CN2 pin 3 (+Vcc1) =+43±1.5Vdc
 - CN2 pin 1 (-Vcc1) =-43±1.5Vdc
 - CN2 pin 2 (-Vcc2) =-60±2Vdc
 - CN1 pin 4 =+15±1Vdc
 - CN1 pin 5 =-15±1Vdc
- If one or more voltages don’t correspond, check the rectifiers, capacitors and transformers disconnecting them from circuitry, refer to schematics.

Low Frequency Channel Check

- Set the audio generator to 300Hz 775mVRMS (0dB) sinusoidal signal.
- Connect the CH2 probe tip to D22 cathode and set its sensitivity at 20V/div.

LOW RAIL VOLTAGE AMPLIFICATION TEST:

- Increase slowly the Variac. The channel output signals must be symmetrical respect the GND without visible distortion and oscillation as shown in Fig.1 Trace A (Trace B shown the amplifier 2nd stage input R58 side C28). If there is a distortion read the section ADVICES.

HIGH RAIL VOLTAGE AMPLIFICATION TEST:

- When the output signal (Positive half-wave) is less than 34Vp the voltage on D22 cathode must remain constant at 40V, when the output signal exceeds 34Vp the voltage must follow the output signal with 6V offset (see Fig.2 Trace B), to check the negative high rail connect the probe to D26 anode (see Fig.2 Trace C).

LOAD CURRENT TEST:

- Connect the 4Ω 500W load on the output and repeat the LOW RAIL and HIGH RAIL tests.

LIMITER CHECK:

- Increase the input signal of 10 dB and verify the output voltage and wave shape remain constant.

BIAS ADJUSTMENT:

- With resistive load connected wait until the temperature reach 50°C.
- Set the level at zero, connect the Multimeter across the resistors R60, then adjust VR1 trimmer to read 6±0.1mVdc.

BANDWIDTH CHECK:

- Disconnect the load. Set the generator at -10dB, sweeping the generator frequency from 10Hz to 10kHz the level changes accordingly Figure5 (1a).

OFFSET SENSOR CHECK:

- Set the Variac to zero voltage output, disconnect resistive load from the amplifier output, connect temporarily (by means of a suitable conductor wire) CN1 pin 4 (+15Vdc) to R72 side RL1, the protection circuitry (Q14,15,16) detect the DC voltage and open the output relay (RL1) within 3 seconds approx.
- Remove the connection, wait until the relay switch on and after some seconds repeat the check with -15Vdc (available on CN1 pin 5), the protection circuitry must open the relay again.

SIGNAL TO NOISE RATIO CHECK:

- Disconnect the audio generator and short the input (pin 1,2,3 of XLR socket shorted) the output signal (noise) must be less than 1mV.

High Frequency Channel Check

- Verify, with the Multimeter, the insulation between the heatsink and the TDA7294 case.
- Set the audio generator to 5KHz 775mVRMS (0dB) sinusoidal signal.
- Connect the CH2 probe tip to R260 side IC202 (HF PWR out) and set its sensitivity at 20V/div. 200µS/div.

VOLTAGE AMPLIFICATION TEST:

- Increase slowly the Variac. The channel output signals must be symmetrical respect the GND without visible distortion and oscillation. If there is a distortion replace the TDA7294.

LOAD CURRENT TEST:

- Connect the 8Ω 500W load on the output and repeat the test.

LIMITER CHECK:

- Increase the input signal of 10 dB and verify the output voltage and wave shape remain constant.

BANDWIDTH CHECK:

- Disconnect the load. Set the generator at -10dB, sweeping the generator frequency from 10Hz to 10kHz the level changes accordingly Figure 5 (1b).

SIGNAL TO NOISE RATIO CHECK:

- Disconnect the audio generator and short the input (pin 1,2,3 of XLR socket shorted) the output signal (noise) must be less than 1mV.

H350SA H400SA CHECKING & ADJUSTMENTS

The following adjustment and notes are relative to this model only.

Technical Specifications

| | | |
|---------------------|----------------------------|---------------|
| Dimensions: | H350SA (WxHxD)..... | 475x555x520mm |
| | H400SA (WxHxD)..... | 625x540x545mm |
| Weight: | H350SA | 35.6Kg |
| Weight: | H400SA | 43Kg |
| Power Requirements: | (230Vac±10% 50Hz) | 350VA |
| | (115Vac±10% 50/60Hz) | 350VA |
| Output Power*: | H350SA (6Ω) | 250W |

| | | |
|---|----------------------------------|------------|
| ..... | H400SA (4Ω) | 350W |
| Max.Undistorted Out*: | H350SA (6Ω) | 105Vpp |
| | H400SA (4Ω) | 105Vpp |
| Sensitivity: | H350SA (1W/1m)..... | 96.2dBSPL |
| | H400SA (1W/1m)..... | 95.5dBSPL |
| Max SPL: | H350SA (continuous) | 120dBSPL |
| | H350SA (peak) | 123dBSPL |
| | H400SA (continuous) | 122dBSPL |
| | H400SA (peak) | 125dBSPL |
| Frequency Response: | H350SA (amplifier+speaker) | 38Hz÷300Hz |
| | H400SA (amplifier+speaker)..... | 32Hz÷300Hz |
| | (only amplifier -3dB)..... | 10Hz÷10KHz |
| Input Sensitivity: | (0dB)..... | 0.775VRMS |
| Input Impedance: | (balanced)..... | 30KΩ |
| | (unbalanced) | 15KΩ |
| Voltage Gain: | ..... | 33.5±1dB |
| IMD: | (SMPTE 60Hz/7KHz 4:1)..... | <0.1% |
| THD: | (THD+N)..... | <0.1% |
| S/N Ratio: | (unweighted) | >100dB |
| *Note: measured with the limiter enabled. | | |

Remarks

- The power supply utilizes a dual bipolar DC rail configuration with low and high voltages; one positive and one negative low rail (+/-Vcc1) and one positive and one negative high rail (+/-Vcc2).

Setup

- Connect the Variac between the mains and the amplifier and set it at zero voltage.
- Turn full clockwise the LEVEL and X-OVER potentiometers.
- Connect the audio generator to the channel R input and set it to 150Hz 775mVRMS (0dB) sinusoidal signal.
- Place the temperature sensor between heatsink and the PTC (R59).
- Connect the CH1 scope GND clip to CN2 pin 6 (SGND terminal) and the probe tip to R72 side RL1 (PWR out), set its sensitivity at 20V/div. 10mS/div.
- Connect the CH2 probe tip to D25 cathode and set its sensitivity at 20V/div.
- The load resistor is disconnected.
- The procedures that follow must be executed subsequently in the order specified.

Supply Check

- Remove the transformer secondary fuses (located on SUPPLY board), set the Variac to the nominal mains voltage, check with the Multimeter the AC supply voltages:

F1-F2=102±2Vac

F3-F4=60±1.5Vac.
- Re-set the Variac at zero voltage, turn off the amplifier and put the fuses back on its holders.
- Set up the Variac slowly monitoring the Outputs with the oscilloscope CH1 connected, starts from 2/3 of nominal mains voltage it should display the sinusoidal input signal amplified with no distortions, if a distortion occur check the AMPLIFIER board as suggested in the ADVICES section.
- If the protection trips, turn off the amplifier, wait some minutes and disconnect the supplies from the amplifier module (CN2, CN3 on AMPLIFIER board), continue to check the supplies.
- Finally verify the DC supplies on SUPPLY board:

CN2 pin 5 (+Vcc2) =+71±2Vdc

CN3 pin 1 (+Vcc1) =+42±1.5Vdc

CN3 pin 5-6 (-Vcc1) =-42±1.5Vdc

CN3 pin 4 (-Vcc2) =-71±2Vdc

CN2 pin 3 =+15±1Vdc

CN2 pin 2 =-15±1Vdc
- If one or more voltages don't correspond, check the rectifiers, capacitors and transformers disconnecting them from circuitry, refer to schematics.

Channels Check

- Verify, with the Multimeter, the insulation between the heatsink and the transistors collectors.
- Verify, with the Multimeter, the PTC resistor value (R59), it must be between 50Ω and 200Ω.

INITIAL TEST:

- Increase slowly the Variac. The channel output signals must be symmetrical respect the GND without visible distortion and oscillation as shown in Fig.1 Trace A (Trace B shown the amplifier 2nd stage input R58 side C28). If there is a distortion read the section ADVICES.

HIGH RAIL CHECK:

- When the output signal (Positive half-wave) is less than 34Vp the voltage on D25 cathode must remain constant at 40V, when the output signal exceeds 40Vp the voltage must follow the output signal with 6V offset (see Fig.2 Trace B), to check the negative high rail connect the probe to D26 anode (see Fig.2 Trace C).

LOAD CURRENT TEST:

- Connect the 4Ω 500W load on the output and repeat the INITIAL and HIGH RAIL checks.

SIGN/COMP SENSOR CHECK:

- Set the LEVEL pot to minimum, set the scope timebase at 1V/div. 1mS/div., then increase the level and check the SIGNAL/COMP led activity: it must turn on (green light) when the amplifier output is higher than 1Vp.
- Set the scope at 20V/div. and increase the level, check the led: it must change from green to red colour when the amplifier output signal is 50±2Vp, increasing the input level the output signal must keep the same level, this is due to the limiter-compression circuitry (IC2, DL1, IC1).

BIAS ADJUSTMENT:

- With the load connected wait until the temperature reach 50°C.
- Set the generator level at zero, connect the Multimeter across the resistors R60, then adjust VR1 trimmer to read 15±0.1mVdc.

BANDWIDTH CHECK:

- The bandwidth of the amplifier board only is linear within the audio range (20Hz-20kHz), but in this case is limited by the X-OVER circuitry on CONTROLS & CROSSOVER board.
- Figure 4 and 5 show the LowPass and the HighPass response, check the correspondance with it for some frequency values (50,100,150,300 for example).

OFFSET SENSOR CHECK:

- Set the Variac to zero voltage output, disconnect resistive load from the amplifier output, connect temporarily (by means of a suitable conductor wire) CN2 pin 3 (+15Vdc) to R72 side RL1, the protection circuitry (TR14,15,16) detect the DC voltage and open the output relay (RL1) within 3 seconds approx.
- Remove the connection, wait until the relay switch on and after some seconds repeat the check with -15Vdc (available on CN2 pin 2), the protection circuitry must open the relay again.

SIGNAL TO NOISE RATIO CHECK:

- Disconnect the audio generator and short the input (pin 1,2,3 of XLR socket shorted) the output signal (noise) must be less than 1mV.

Advices

- If you have determinate that the problem is a short on a rail, you must check the output transistors to determine which transistor devices are bad.
- Use a soldering iron to lift one leg of each emitter pin and measure the emitter-collector resistance on each device.
- Unsolder and lift one leg of each base pin and check the base-collector resistance of each transistor and replace any that measure as a short.
- If all the transistors are OK, unsolder and lift one leg of each diode and check them.
- Check the circuit board for open foil traces.
- Use the Multimeter as Ohm-meter to check the resistors, particularly the base and emitter resistors of damaged transistor.
- If the input sinewave appears to be distorted during the negative cycle, you can assume that the problem is located somewhere in the circuitry of the positive low rail.
- If the positive cycle appears distorted, you can assume that the problem is in the circuitry of the negative low rail.
- If the high rails appear distorted or are not modulating as shown in figure, then the problem probably exists somewhere in the circuitry of the respective (+ or -) defective high rail. Refer to the schematics.

Reliability Check

Before reassembling the amplifier and before deliver it to the user, it is a goal verify its reliability with the following checks:

- Switch off the amplifier, or leaving it switched on but operating with greatest caution, carefully shake the boards and connections inside it using an insulated tool (for example the handle of a screwdriver) to find wrong contacts and so on.
- Turn on the amplifier and verify that it operates correctly.

Burn in Check

- Connect the appropriate load resistor to the output and a noise signal generator to the input, set it to C or A weighted pink noise with a 4:1 (12dB) of crest factor and 0dB peak level.
- Leave the amplifier switched on at least 2 hour and finally check its correct functionality after the test.

Figures

Figure 1 and 2 show the right shape of the traces but not their real levels, refer to the levels mentioned in the chapter of appropriate amplified loudspeaker.

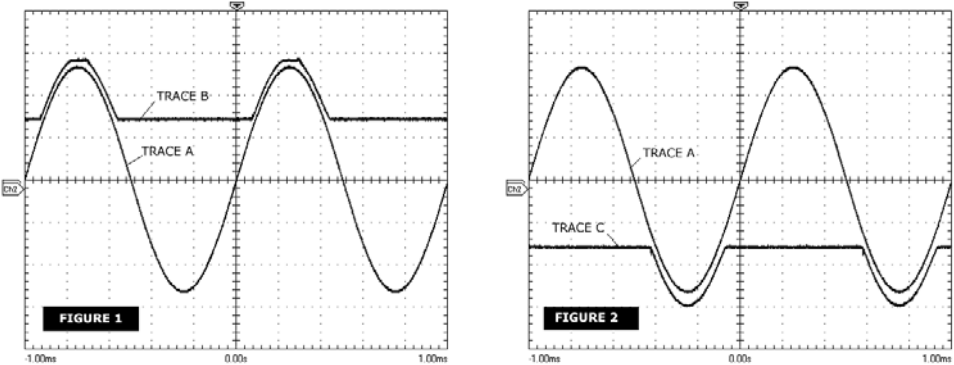


Figure 3 shows the frequency response of the H150A-H200A AMPLIFIER.

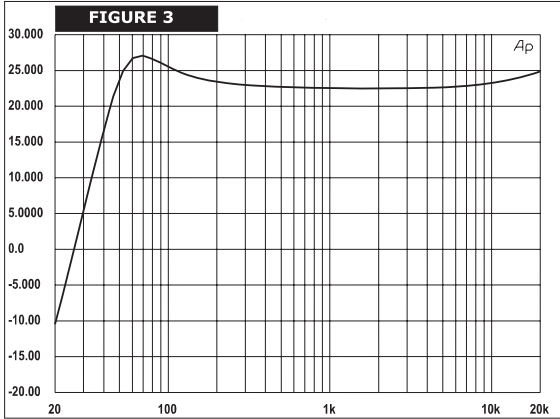


Figure 4 shows the frequency response of the H300A DUAL AMPLIFIER.

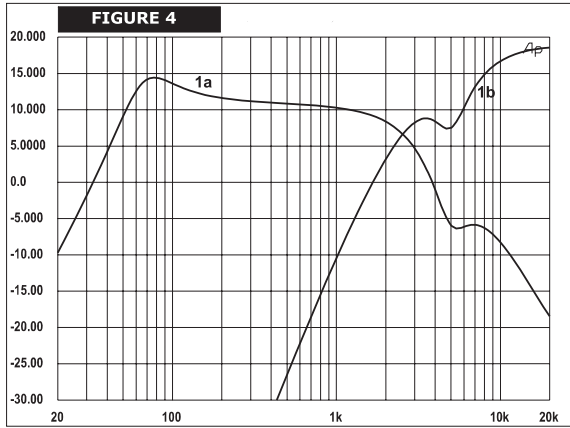


Figure 5 shows the frequency response of the H350A DUAL AMPLIFIER.

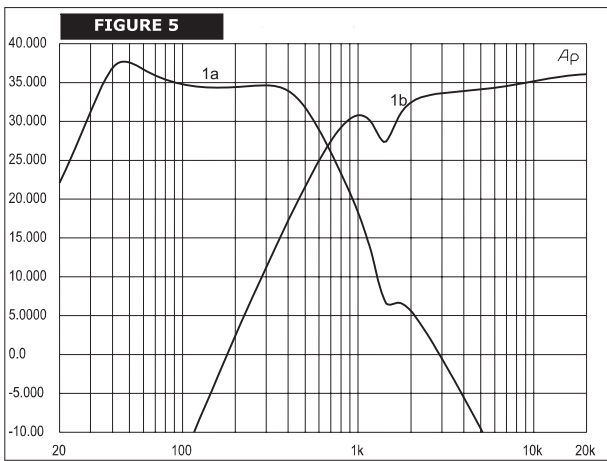
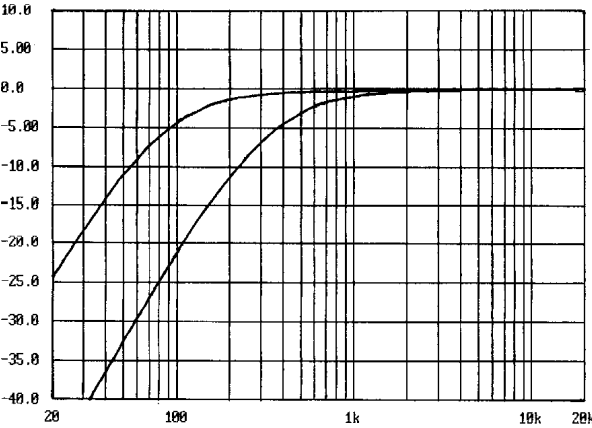
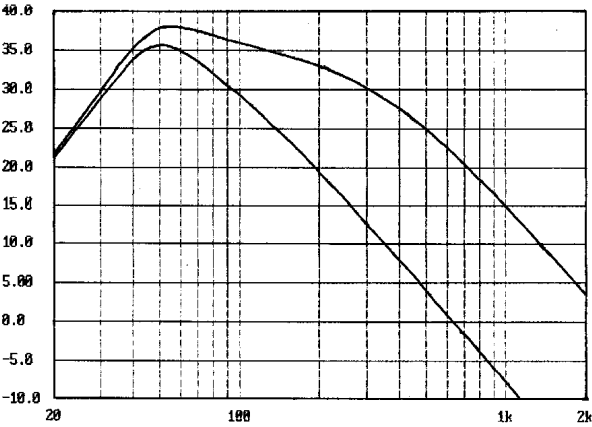
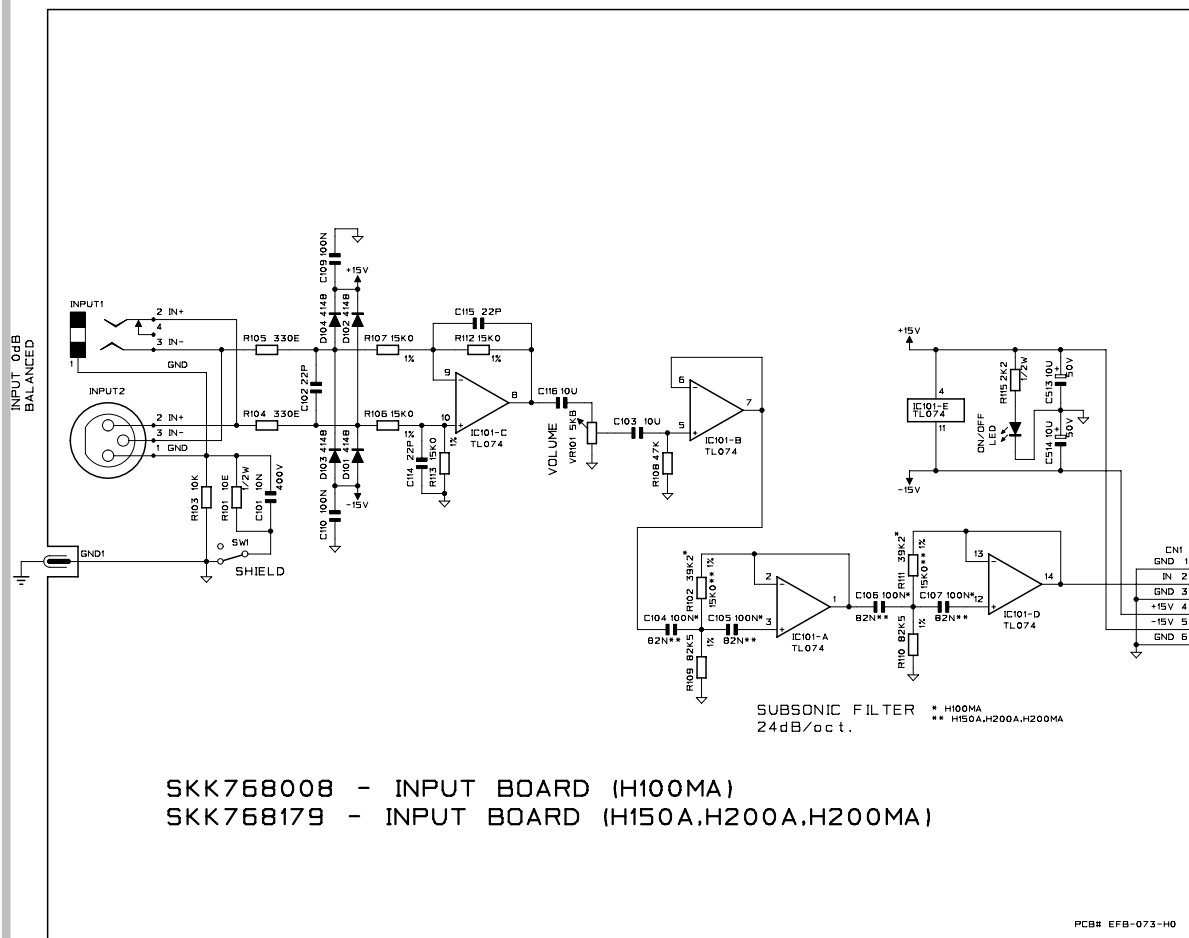
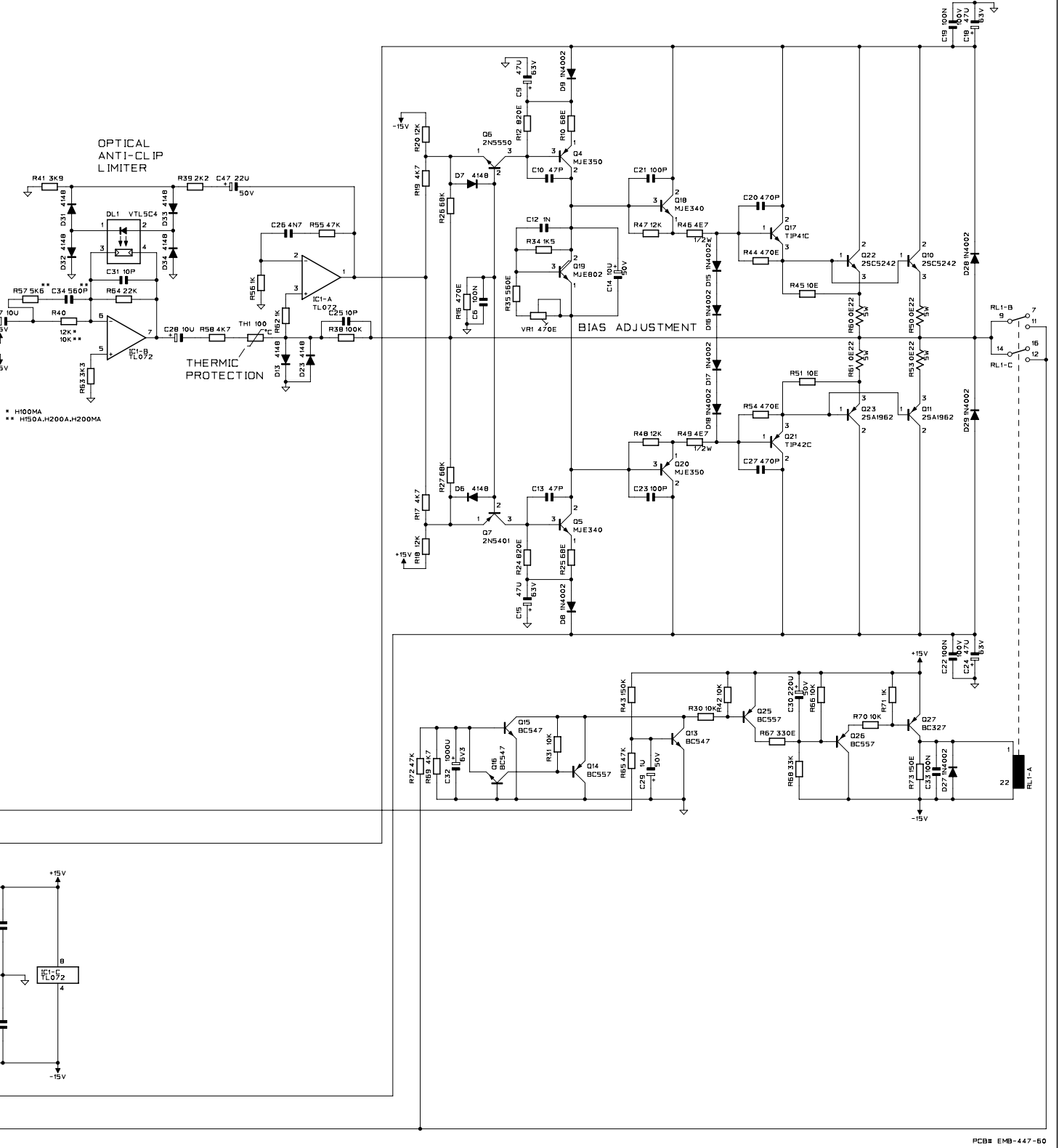


Figure 6 & 7 show the H350SA & H400SA amplifier response and sat out response, the crossover frequency is sweepable into 80-300Hz range.

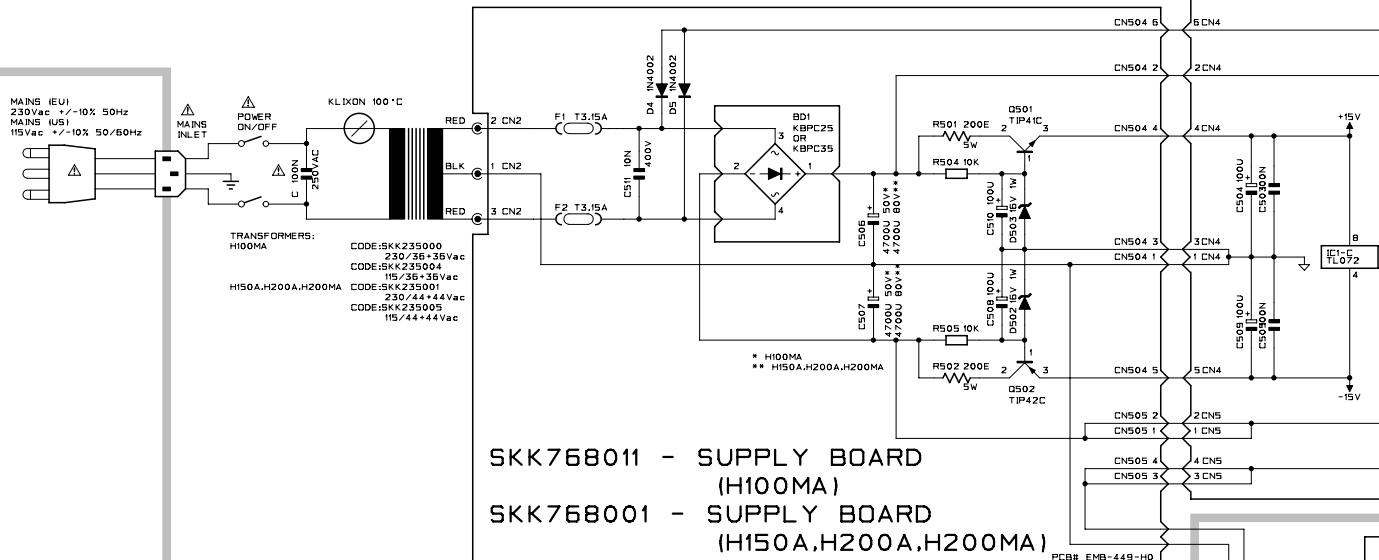




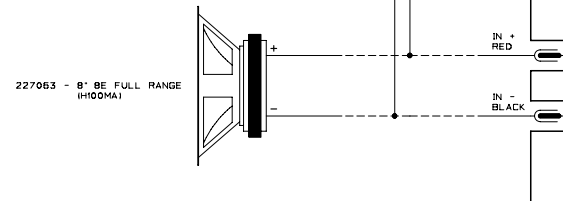
SKK768004 - AMPLIFIER BOARD (H100MA)
SKK768005 - AMPLIFIER BOARD (H150A,H200A,H200MA)



SKK737092 - AMPLIFIER ASSEMBLY AT 230V (EU)
SKK737093 - AMPLIFIER ASSEMBLY AT 115V (US)
for H100MA
SKK737096 - AMPLIFIER ASSEMBLY AT 230V (EU)
SKK737097 - AMPLIFIER ASSEMBLY AT 115V (US)
for H150A, H200A, H200MA

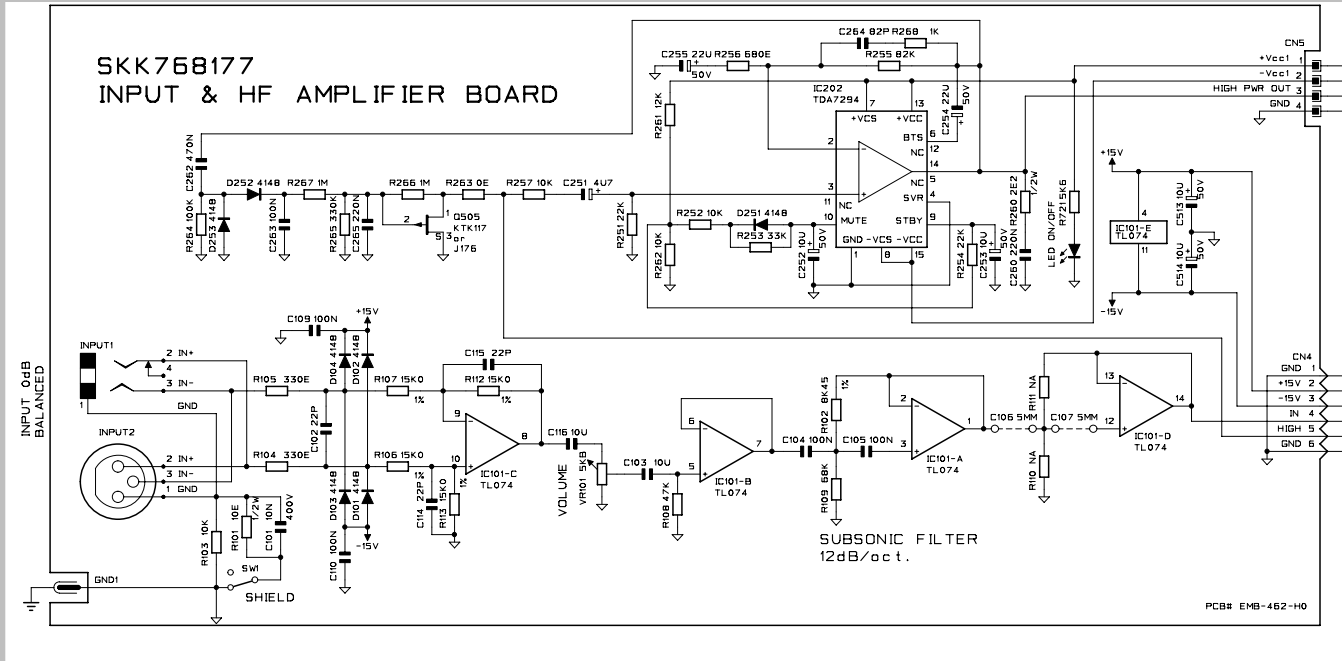


SKK768305 - XOVER BOARD (H150A)
SKK768306 - XOVER BOARD (H200A/H200MA)

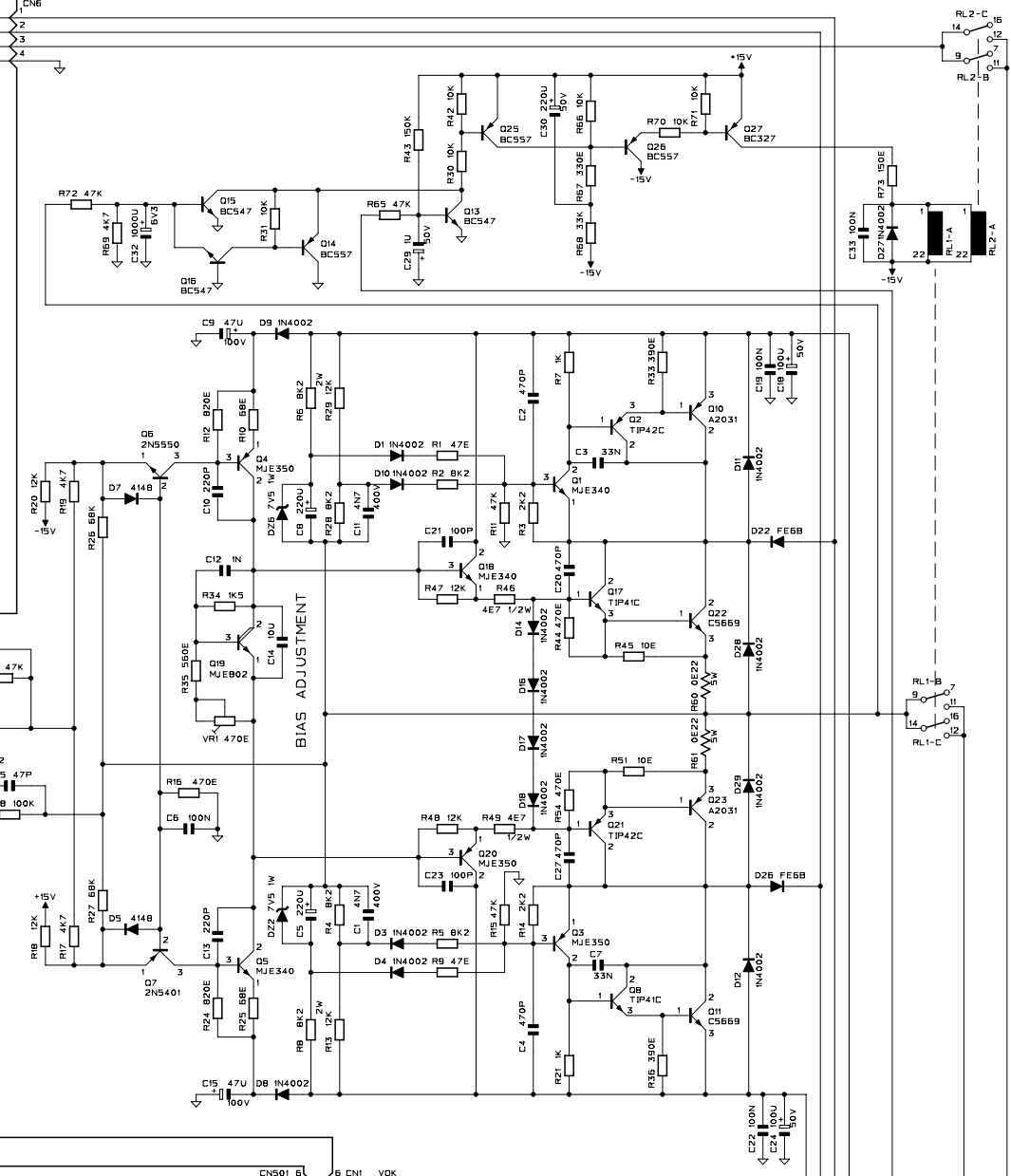


THIS PART IS REPLACED ENTIRELY ONLY
(SEE SCHEMATICS ON PASSIVE VERSION)

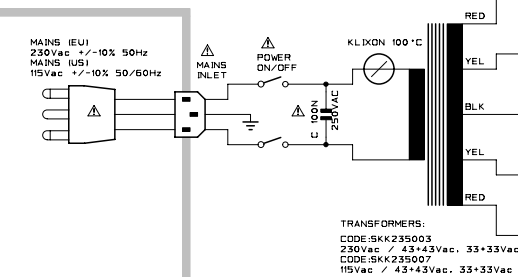
SKK768177 INPUT & HF AMPLIFIER BOARD



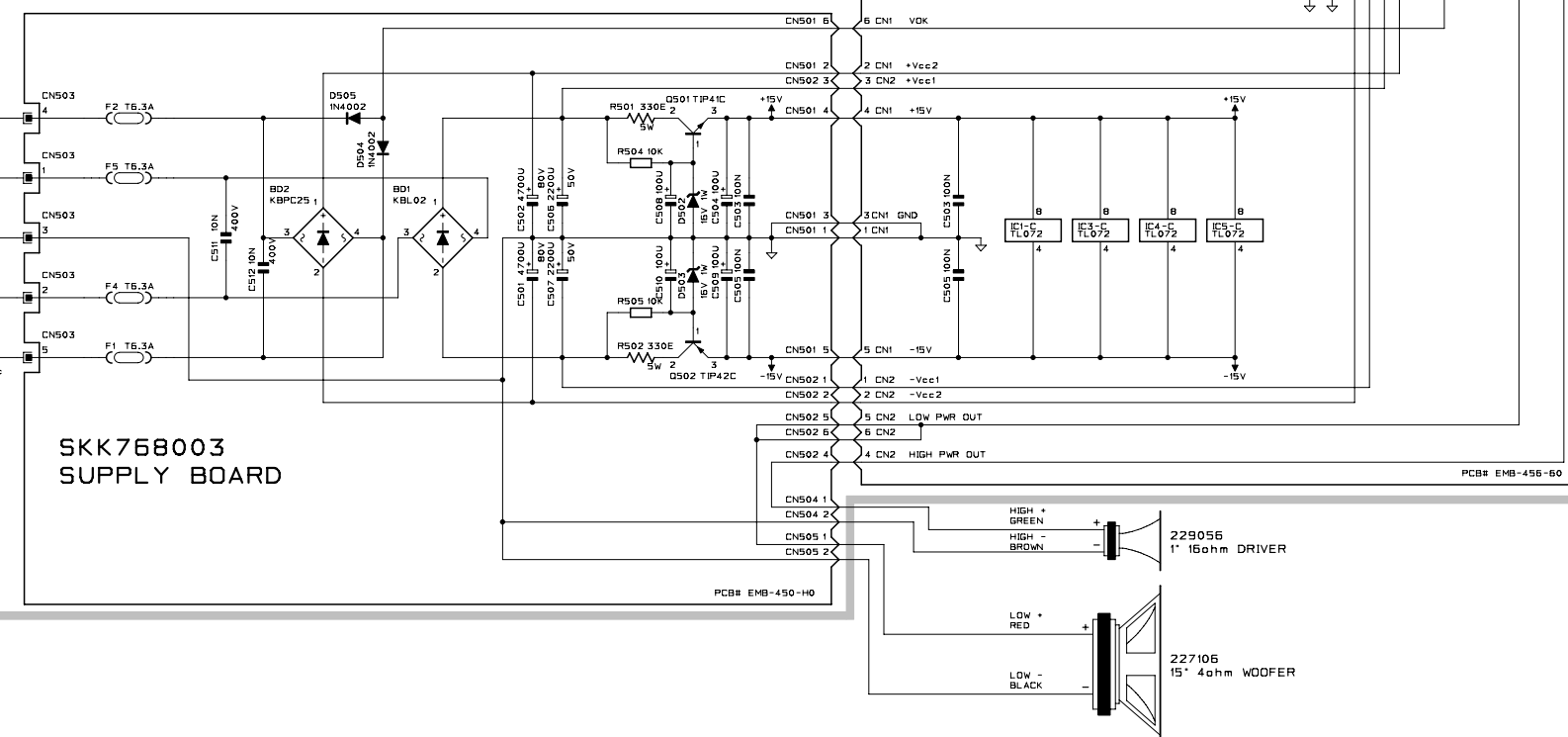
SKK768178 - XOVER & LF AMPLIFIER BOARD



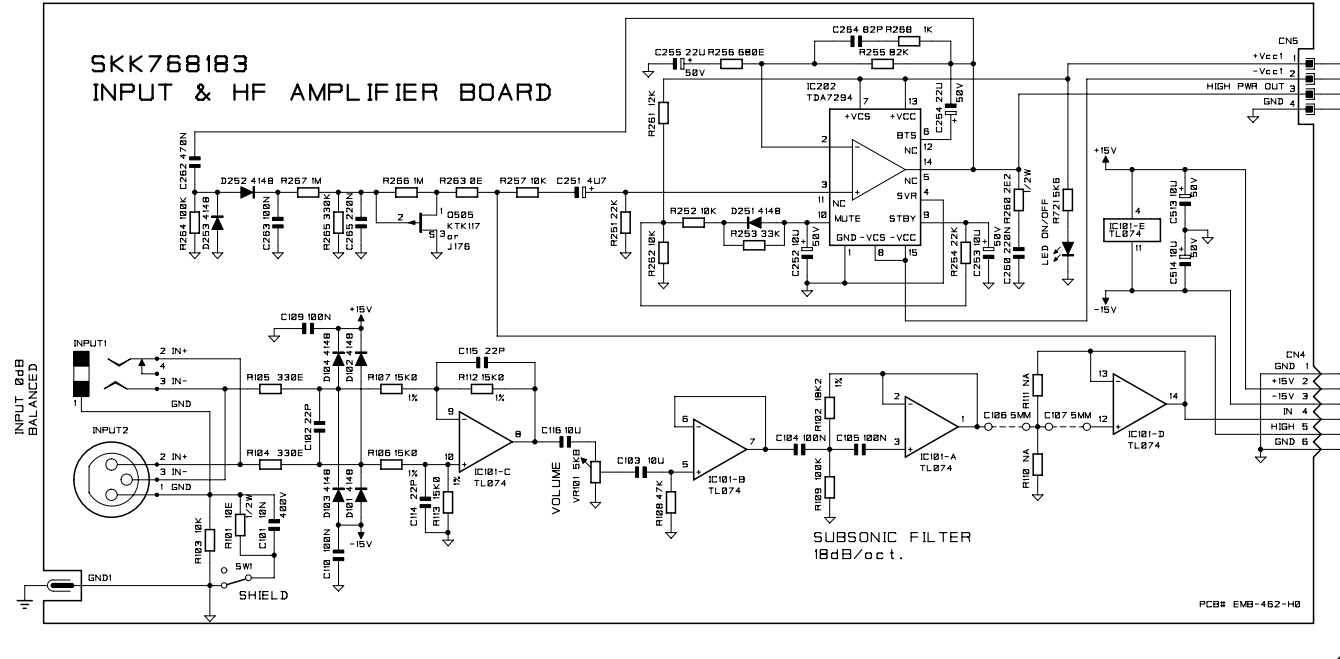
SKK737100 - AMPLIFIER ASSEMBLY AT 230V (EU) SKK737101 - AMPLIFIER ASSEMBLY AT 115V (US)



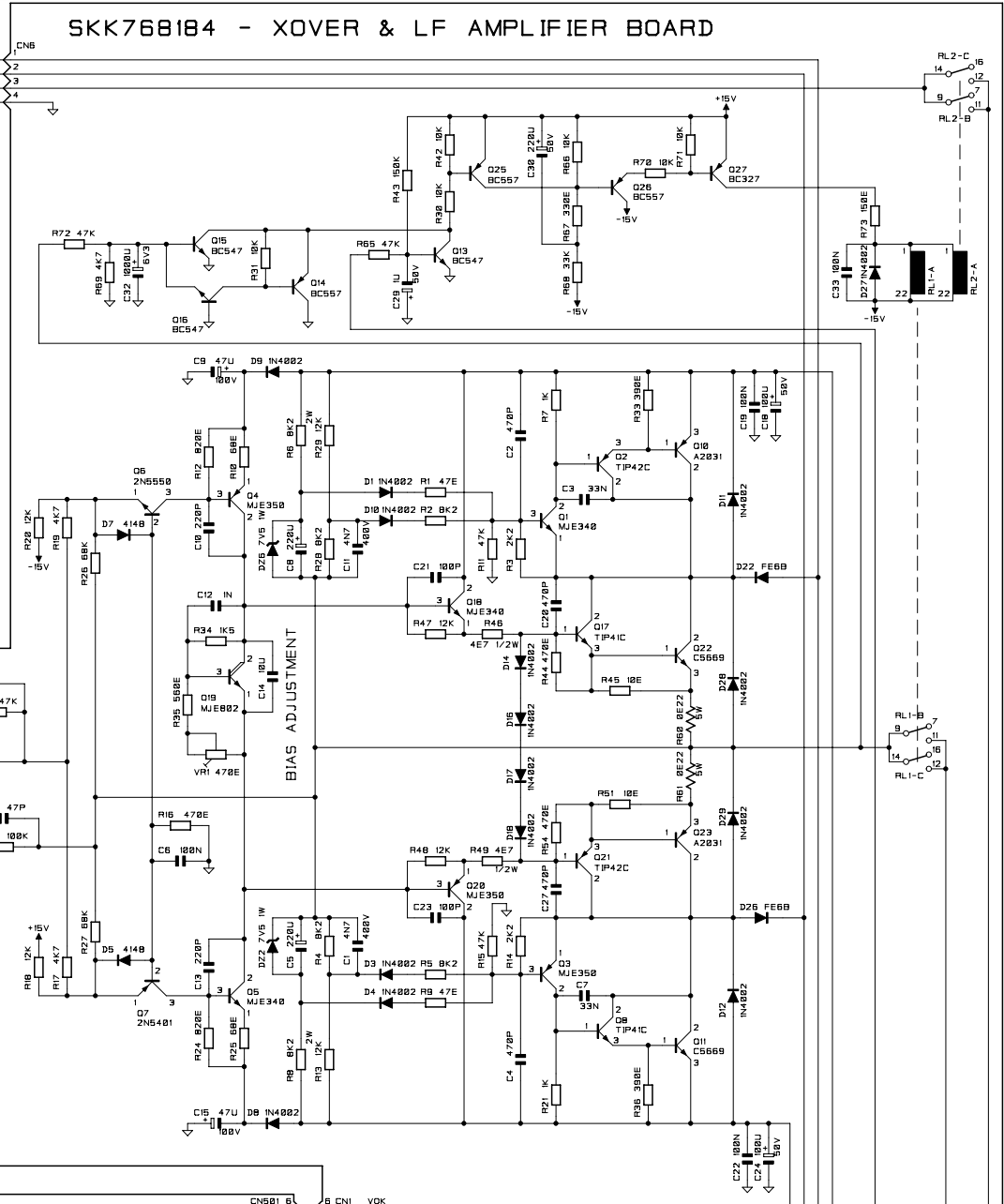
SKK768003 SUPPLY BOARD



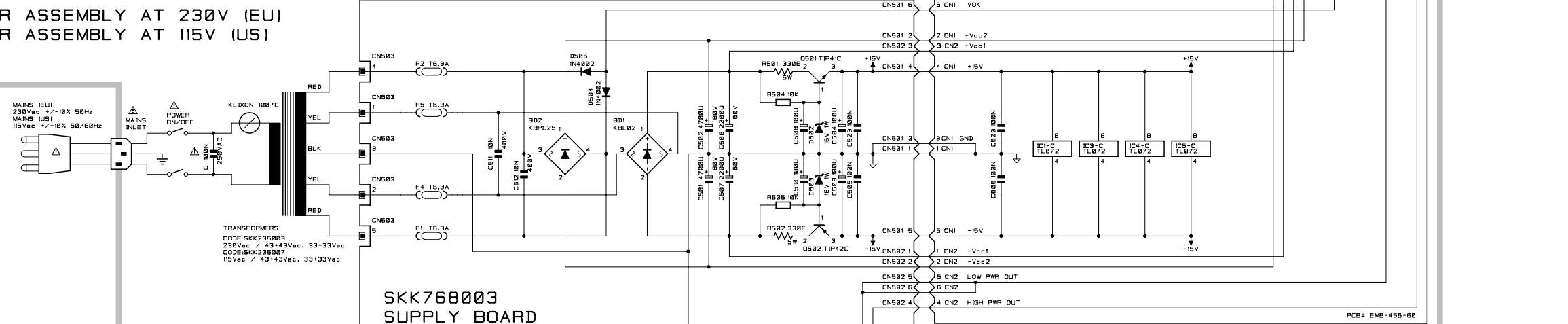
SKK768183 INPUT & HF AMPLIFIER BOARD



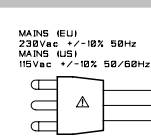
SKK768184 - XOVER & LF AMPLIFIER BOARD



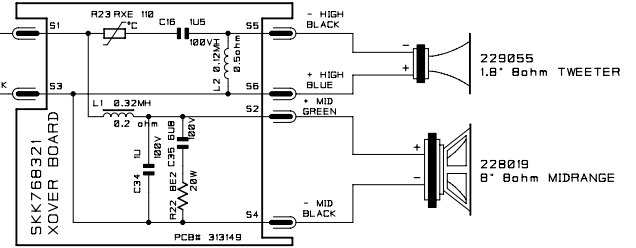
SKK737094 - AMPLIFIER ASSEMBLY AT 230V (EU) SKK737095 - AMPLIFIER ASSEMBLY AT 115V (US)



SKK768003 SUPPLY BOARD



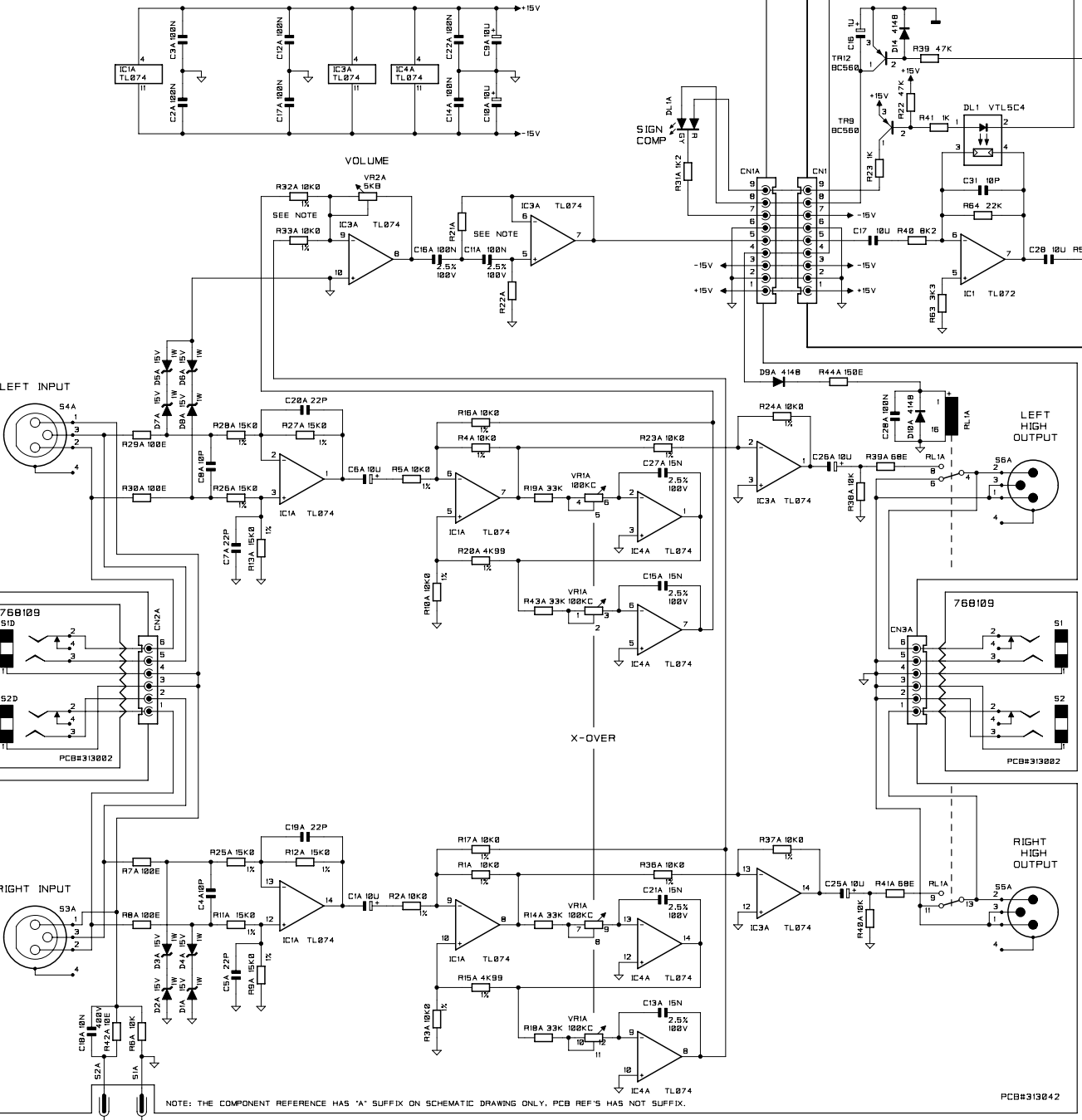
TRANSFORMERS:
CODE:SKK235003
230Vac / 43*43Vac. 33*33Vac
CODE:SKK235007
115Vac / 43*43Vac. 33*33Vac



| | | | |
|----------------|---------------|---|---------------------------|
| DRW G. Boccato | DWG# 550821 | PCB# EMB-456-68 EMB-456-H8 EMB-462-H8 31949 | GENERALMUSIC S.p.A. ITALY |
| CKD G.Ricci | DATE 18/08/05 | SCHEMATIC DIAGRAM | |
| APP N. Zavatta | REV: A | H350A | |

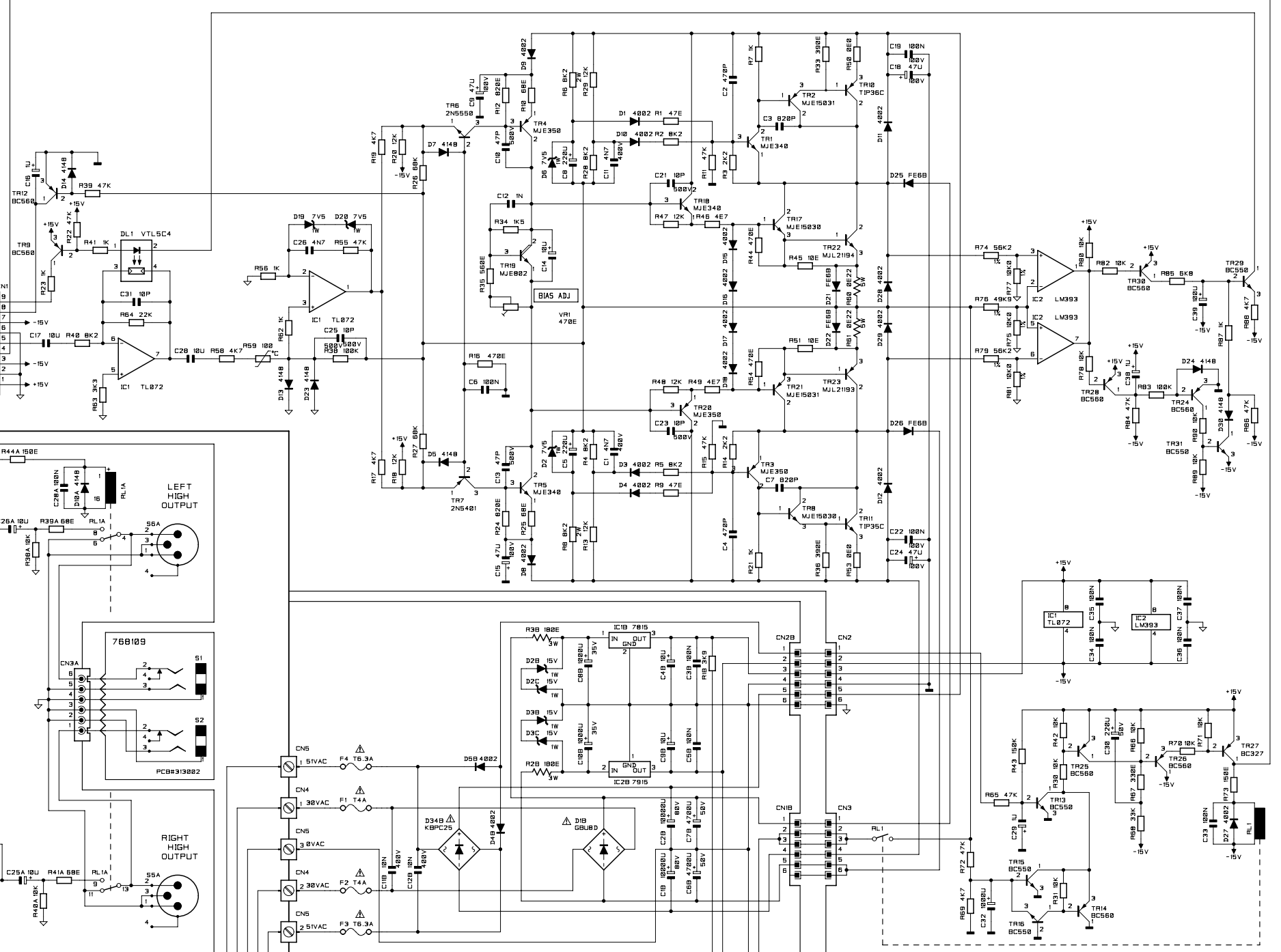
SKK737088 - H350SA AMPLIFIER ASSEMBLY AT 230VAC (EU)
SKK737089 - H350SA AMPLIFIER ASSEMBLY AT 115VAC (US)
SKK737090 - H400SA AMPLIFIER ASSEMBLY AT 230VAC (EU)
SKK737091 - H400SA AMPLIFIER ASSEMBLY AT 115VAC (US)

SKK768185 - INPUT & XOVER BOARD



SKK727562 - 350W POWER AMPLIFIER ASSEMBLY

SKK768094 - 350W POWER AMPLIFIER BOARD (WITHOUT COMPONENT MOUNTED ON HEATSINK)

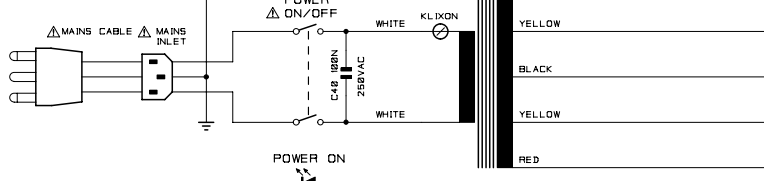


SKK768100 - POWER SUPPLY BOARD

NOTE: THE COMPONENT REFERENCE HAS 'B' SUFFIX ON SCHEMATIC DRAWING ONLY.
PCB REF'S HAS NOT SUFFIX.

PCB#317197

230Vac +/-15% 50Hz (EU)
115Vac +/-15% 60Hz (US)



NOTE: THE H350SA AND H400SA AMPLIFIER MODULES DIFFER BETWEEN THEM ONLY FOR R21, R22 AND R32, R33
RESISTORS MOUNTED ON SKK768185 SEE TABLE BELOW:

| | H350SA | H400SA |
|-----|---------|---------|
| R22 | 137K 1% | 121K 1% |
| R21 | 12K1 1% | 18K2 1% |
| R32 | 18K8 1% | 5K00 1% |
| R33 | 18K8 1% | 5K00 1% |

Spare Part List

| Legend | |
|--------|------------------------------|
| EU | = Europe version 230V |
| US | = United States version 115V |
| Code | Description |

Optional Accessories

| | |
|--------|---|
| 950978 | SC31 Alluminium Telescopic Stand (for SUB - SAT) |
| 950199 | SC30 Alluminium Telescopic Stand (for SAT Standalone) |
| 951133 | 15mt Speakon-Speakon 2x1.50mm² Cable |

Hurricane Active

Accessories

| | |
|--------|----------------------------------|
| 277412 | Owner’s Manual (Italian-English) |
| 130297 | Mains Cable 10A (EU) |
| 130283 | Mains Cable 10A (US) |

H150A

Assembly

| SKK768305 Crossover Board Assembly (Pcb#313142) | |
|---|---|
| (this part is replaced entirely only) | |
| 841375 | 30cm Blue/Black 0.75mm² Faston/Faston Dual Wire |
| 841374 | 50cm Brown/Black 0.75mm² Faston6.3/4.8 Dual Wire |
| 727662 | Horn Assembly |
| 347424 | * Horn / Driver Adapter |
| 347407 | * EWT Gray Elliptical Horn |
| 229057 | * 1” 16ohm Diaphragm for 229056 Compression Driver |
| 229056 | * 1” 16ohm Compression Driver |
| 210267 | * Gasket between Horn and Box |
| 120346 | * WL4x20tc Black Screw |
| 120106 | * M5x10tsp Black Screw |
| 717106 | Speaker Cabinet Assembly |
| 657292 | * Reflex Duct |
| 430112 | * Wooden Cabinet with Gray Carpet |
| 347420 | * Rubber Foot |
| 347395 | * Plastic Handle |
| 177325 | * Suspension Flange |
| 120664 | * M6 4-tips Lock Nut |
| 120662 | * M5 4-tips Lock Nut |
| 120661 | * M4 4-tips Lock Nut |
| 120411 | * WL3.5x20tt Black Screw |
| 120336 | * WL4x25tt Black Screw |
| 120111 | * M6x25tsp Black Screw |
| 667708 | Speaker Grill |
| 227101 | 10” 8ohm Woofer Speaker |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) |
| 210217 | Black Sealer (specify mt) |
| 180863 | “H150A” Adhesive Label |
| 180822 | “LEM” Logo Adhesive Plate |
| 150298 | 100x2.5mm Nylon Cable Tie |
| 129962 | WL3.5X25ts Black Screw |
| 120483 | 5mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120414 | WL3.5x35tt Black Screw |
| 120411 | WL3.5x20tt Black Screw |
| 120124 | M5x30tc Black Screw |
| 120059 | M4x25tc Black Zinc Plated Screw |

Amplifier Assembly

| SKK737096 Amplifier Assembly (EU) | |
|-----------------------------------|--|
| SKK737097 Amplifier Assembly (US) | |
| SKK768180 | * Amplifier Board (Pcb#EMB-447-60) |
| SKK090015 | ** 2SC5242-O TO3P Npn Transistor |
| SKK090016 | ** 2SA1962-O TO3P Pnp Transistor |
| SKK090001 | ** TIP42C TO220 Pnp Transistor |
| SKK090000 | ** TIP41C TO220 Npn Transistor |
| 110307 | ** Relay 24V / 2 Switch 5A 250Vac |
| 100061 | ** TL072 Dual J-Fet Operational Amplifier |
| 090920 | ** MJE802 TO126 Npn Darl Transistor |
| 090917 | ** MJE350 TO126 Pnp Transistor |
| 090916 | ** MJE340 TO126 Npn Transistor |
| 090201 | ** 2N5401 TO92 Pnp Transistor |
| 090200 | ** 2N5550 TO92 Npn Transistor |
| 090194 | ** BC560C TO92 LN Pnp Transistor (BC557C Equivalent) |
| 090183 | ** BC550C TO92 LN Npn Transistor (BC547C Equivalent) |
| 090153 | ** BC327 TO92 Pnp Transistor |
| 080901 | ** VTL5C4 Analog Optoisolator |
| 080821 | ** Ptc 90 PTH59F04BE222TS |
| 080156 | ** 1N4002 1A 100V Rectifier Diode |
| 080103 | ** 1N4148 100mA 75V Signal Diode |
| 060051 | ** 0E22 5W 5% Wire Resistor |
| 030715 | ** 1000u 6v3 20% Vert Electrolytic Capacitor |
| SKK768179 | * Input Board (Pcb#EFB-073-H0) |
| 141187 | ** XLR Female Socket |

| | |
|-----------|---|
| SKK110267 | ** Slider Switch |
| 140217 | ** Jack Slim Horizontal S-F Socket |
| 100084 | ** TL074 Quad J-Fet Operational Amplifier |
| SKK080706 | ** Led 3mm Wide Diffused Green |
| SKK074570 | ** 5K 41steps Linear Potentiometer |
| SKK768001 | * Supply Board (Pcb#EMB-449-H0) |
| SKK090001 | ** TIP42C TO220 Pnp Transistor |
| SKK090000 | ** TIP41C TO220 Npn Transistor |
| 110119 | ** Fuse Clip 10A max (EU) (US) |
| 080292 | ** 16V 1W 5% Zener Diode |
| 080156 | ** 1N4002 1A 100V Rectifier Diode |
| SKK667003 | * H-Series Painted Frame Panel (SE1595) |
| SKK347030 | * Rotary Pot Black Knob D=15MM |
| SKK235001 | * Transformer 230Vac (EU) |
| SKK235005 | * Transformer 115Vac (US) |
| 110003 | * T3.15A Fuse 5x20mm (EU) |
| 110061 | * T3.15A Fuse 6.3x32mm (US) |
| 340154 | * TO3P/TO218 Mica Washer |
| 340079 | * TO220 Mica Washer |
| 340078 | * TO220 Insulated Bush |
| 110285 | * 4A 250Vac Bipolar Power Switch |
| 110614 | * 3 Terminal Universal Mains Inlet 10A Faston=6.3mm |
| 080607 | * KBPC25 25A 200V Rectifier Diode Bridge |
| 020491 | * 100nF 10% 250Vac Polyester Capacitor |

H200A

Assembly

| SKK768306 Crossover Board Assembly (Pcb#313142) | |
|---|---|
| (this part is replaced entirely only) | |
| 841374 | 50cm Brown/Black 0.75mm² Faston6.3/4.8 Dual Wire |
| 841338 | 40cm Blue/Black 0.75mm² Faston/Faston Dual Wire |
| 727662 | Horn Assembly |
| 347424 | * Horn / Driver Adapter |
| 347407 | * EWT Gray Elliptical Horn |
| 229057 | * 1” 16ohm Diaphragm for 229056 Compression Driver |
| 229056 | * 1” 16ohm Compression Driver |
| 210267 | * Gasket between Horn and Box |
| 120346 | * WL4x20tc Black Screw |
| 120106 | * M5x10tsp Black Screw |
| 717108 | Speaker Cabinet Assembly |
| 657293 | * Reflex Duct |
| 430114 | * Wooden Cabinet with Gray Carpet |
| 347420 | * Rubber Foot |
| 347395 | * Plastic Handle |
| 177325 | * Suspension Flange |
| 120664 | * M6 4-tips Lock Nut |
| 120662 | * M5 4-tips Lock Nut |
| 120661 | * M4 4-tips Lock Nut |
| 120411 | * WL3.5x20tt Black Screw |
| 120336 | * WL4x25tt Black Screw |
| 120111 | * M6x25tsp Black Screw |
| 667709 | Speaker Grill |
| 227102 | 12” 8ohm Woofer Speaker |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) |
| 210217 | Black Sealer (specify mt) |
| 180864 | “H200A” Adhesive Label |
| 180822 | “LEM” Logo Adhesive Plate |
| 150298 | 100x2.5mm Nylon Cable Tie |
| 129962 | WL3.5X25ts Black Screw |
| 120483 | 5mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120414 | WL3.5x35tt Black Screw |
| 120411 | WL3.5x20tt Black Screw |
| 120124 | M5x30tc Black Screw |
| 120059 | M4x25tc Black Zinc Plated Screw |

Amplifier Assembly

| SKK737096 Amplifier Assembly (EU) | |
|-----------------------------------|--|
| SKK737097 Amplifier Assembly (US) | |
| SKK768180 | * Amplifier Board (Pcb#EMB-447-60) |
| SKK090015 | ** 2SC5242-O TO3P Npn Transistor |
| SKK090016 | ** 2SA1962-O TO3P Pnp Transistor |
| SKK090001 | ** TIP42C TO220 Pnp Transistor |
| SKK090000 | ** TIP41C TO220 Npn Transistor |
| 110307 | ** Relay 24V / 2 Switch 5A 250Vac |
| 100061 | ** TL072 Dual J-Fet Operational Amplifier |
| 090920 | ** MJE802 TO126 Npn Darl Transistor |
| 090917 | ** MJE350 TO126 Pnp Transistor |
| 090916 | ** MJE340 TO126 Npn Transistor |
| 090201 | ** 2N5401 TO92 Pnp Transistor |
| 090200 | ** 2N5550 TO92 Npn Transistor |
| 090194 | ** BC560C TO92 LN Pnp Transistor (BC557C Equivalent) |
| 090183 | ** BC550C TO92 LN Npn Transistor (BC547C Equivalent) |
| 090153 | ** BC327 TO92 Pnp Transistor |
| 080901 | ** VTL5C4 Analog Optoisolator |
| 080821 | ** Ptc 90 PTH59F04BE222TS |

| | |
|-----------|---|
| 080156 | ** 1N4002 1A 100V Rectifier Diode |
| 080103 | ** 1N4148 100mA 75V Signal Diode |
| 060051 | ** 0E22 5W 5% Wire Resistor |
| 030715 | ** 1000u 6v3 20% Vert Electrolytic Capacitor |
| SKK768179 | * Input Board (Pcb#EFB-073-H0) |
| 141187 | ** XLR Female Socket |
| SKK110267 | ** Slider Switch |
| 140217 | ** Jack Slim Horizontal S-F Socket |
| 100084 | ** TL074 Quad J-Fet Operational Amplifier |
| SKK080706 | ** Led 3mm Wide Diffused Green |
| SKK074570 | ** 5K 41steps Linear Potentiometer |
| SKK768001 | * Supply Board (Pcb#EMB-449-H0) |
| SKK090001 | ** TIP42C TO220 Pnp Transistor |
| SKK090000 | ** TIP41C TO220 Npn Transistor |
| 110119 | ** Fuse Clip 10A max (EU) (US) |
| 080292 | ** 16V 1W 5% Zener Diode |
| 080156 | ** 1N4002 1A 100V Rectifier Diode |
| SKK667003 | * H-Series Painted Frame Panel (SE1595) |
| SKK347030 | * Rotary Pot Black Knob D=15MM |
| SKK235001 | * Transformer 230Vac (EU) |
| SKK235005 | * Transformer 115Vac (US) |
| 110003 | * T3.15A Fuse 5x20mm (EU) |
| 110061 | * T3.15A Fuse 6.3x32mm (US) |
| 340154 | * TO3P/TO218 Mica Washer |
| 340079 | * TO220 Mica Washer |
| 340078 | * TO220 Insulated Bush |
| 110285 | * 4A 250Vac Bipolar Power Switch |
| 110614 | * 3 Terminal Universal Mains Inlet 10A Faston=6.3mm |
| 080607 | * KBPC25 25A 200V Rectifier Diode Bridge |
| 020491 | * 100nF 10% 250Vac Polyester Capacitor |

H300A

Assembly

| | |
|--------|---|
| 727662 | Horn Assembly |
| 347424 | * Horn / Driver Adapter |
| 347407 | * EWT Gray Elliptical Horn |
| 229057 | * 1” 16ohm Diaphragm for 229056 Compression Driver |
| 229056 | * 1” 16ohm Compression Driver |
| 210267 | * Gasket between Horn and Box |
| 120346 | * WL4x20tc Black Screw |
| 120106 | * M5x10tsp Black Screw |
| 717110 | Speaker Cabinet Assembly |
| 657292 | * Reflex Duct |
| 430116 | * Wooden Cabinet with Gray Carpet |
| 347420 | * Rubber Foot |
| 347395 | * Plastic Handle |
| 177325 | * Suspension Flange |
| 120664 | * M6 4-tips Lock Nut |
| 120662 | * M5 4-tips Lock Nut |
| 120661 | * M4 4-tips Lock Nut |
| 120411 | * WL3.5x20tt Black Screw |
| 120336 | * WL4x25tt Black Screw |
| 120111 | * M6x25tsp Black Screw |
| 667710 | Speaker Grill |
| 227106 | 15” 4ohm Woofer Speaker |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) |
| 210217 | Black Sealer (specify mt) |
| 180865 | “H300A” Adhesive Label |
| 180822 | “LEM” Logo Adhesive Plate |
| 150298 | 100x2.5mm Nylon Cable Tie |
| 129962 | WL3.5X25ts Black Screw |
| 120483 | 5mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120414 | WL3.5x35tt Black Screw |
| 120124 | M5x30tc Black Screw |
| 120059 | M4x25tc Black Zinc Plated Screw |

Amplifier Assembly

| SKK737100 Amplifier Assembly (EU) | |
|-----------------------------------|---|
| SKK737101 Amplifier Assembly (US) | |
| SKK768178 | * X-over & LF Amplifier Board (Pcb#EMB-456-60) |
| SKK090017 | ** 2SC5669 TO3P Npn Transistor |
| SKK090018 | ** 2SA2031 TO3P Pnp Transistor |
| SKK090001 | ** TIP42C TO220 Pnp Transistor |
| SKK090000 | ** TIP41C TO220 Npn Transistor |
| 110316 | ** Relay 24V / 1 Switch no 16A 250V |
| 100061 | ** TL072 Dual J-Fet Operational Amplifier |
| 090920 | ** MJE802 TO126 Npn Darl Transistor |
| 090917 | ** MJE350 TO126 Pnp Transistor |
| 090916 | ** MJE340 TO126 Npn Transistor |
| 090201 | ** 2N5401 TO92 Pnp Transistor |
| 090200 | ** 2N5550 TO92 Npn Transistor |
| 090194 | ** BC560C TO92 LN Pnp Transistor |
| 090183 | ** BC550C TO92 LN Npn Transistor |
| 090153 | ** BC327 TO92 Pnp Transistor |
| 080901 | ** VTL5C4 Analog Optoisolator |
| 080821 | ** Ptc 90 PTH59F04BE222TS |

| | |
|-----------|--|
| 080156 | ** 1N4002 1A 100V Rectifier Diode |
| 080103 | ** 1N4148 100mA 75V Signal Diode |
| 060051 | ** 0E22 5W 5% Wire Resistor |
| 030715 | ** 1000u 6v3 20% Vert Electrolytic Capacitor |
| SKK768177 | * Input & HF Amplifier Board (Pcb#EMB-462-H0) |
| 141187 | ** XLR Female Socket |
| SKK110267 | ** Slider Switch |
| 140217 | ** Jack Slim Horizontal S-F Socket |
| 100965 | ** TDA7294 80W Audio Amplifier with Mute |
| 100084 | ** TL074 Quad J-Fet Operational Amplifier |
| SKK080706 | ** Led 3mm Wide Diffused Green |
| SKK074570 | ** 5K 41steps Linear Potentiometer |
| SKK768003 | * Supply Board (Pcb#EMB-450-H0) |
| SKK090001 | ** TIP42C TO220 Pnp Transistor |
| SKK090000 | ** TIP41C TO220 Npn Transistor |
| 110119 | ** Fuse Clip 10A max (EU) (US) |
| 080606 | ** GBU8D 8A Rectifier Diodes Bridge |
| 080292 | ** 16V 1W 5% Zener Diode |
| 080156 | ** 1N4002 1A 100V Rectifier Diode |
| SKK667004 | * H-Series Painted Frame Panel (SE1596) |
| SKK347030 | * Rotary Pot Black Knob D=15MM |
| SKK235003 | * Transformer 230Vac (EU) |
| SKK235007 | * Transformer 230Vac (US) |
| 110614 | * Mains Socket |
| 110291 | * 16A 250Vac Bipolar Power Switch |
| 110018 | * T6.3A Fuse 5x20mm (EU) |
| 110037 | * T6.3A Fuse 6.3x32mm (US) |
| 080608 | * KBPC3502 35A 200V Rectifier Diode Bridge |
| 020491 | * 100nF 10% 250Vac Polyester Capacitor |

H350A

Assembly

| SKK768312 Crossover Board Assembly (Pcb#313149) | |
|---|---|
| (this part is replaced entirely only) | |
| 841384 | 75cm Blue/Black 0.75mm² Faston/Faston Dual Wire |
| 841349 | 65cm Blue/Black 0.75mm² Faston/Unsheathe Dual Wire |
| 717112 | Speaker Cabinet Assembly |
| 657295 | * Reflex Duct |
| 430118 | * Wooden Cabinet with Gray Carpet |
| 347420 | * Rubber Foot |
| 177783 | * Black Metallic Flange |
| 177328 | * 220x160mm Metal Handle |
| 120664 | * M6 4-tips Lock Nut |
| 120662 | * M5 4-tips Lock Nut |
| 120661 | * M4 4-tips Lock Nut |
| 120341 | * WL4x20tt Black Screw |
| 120336 | * WL4x25tt Black Screw |
| 120111 | * M6x25tsp Black Screw |
| 667787 | Speaker Grill |
| 229054 | 1.8” 8ohm Tweeter Speaker |
| 229055 | 1.8” 8ohm Diaphragm for 229054 Tweeter Speaker |
| 228019 | 8” 8ohm Midrange Speaker |
| 227103 | 15” 4ohm Woofer Speaker |
| 210273 | Speaker Filler (400gr/m² 50x50x4cm) |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) |
| 210217 | Black Sealer (specify mt) |
| 210215 | Adhesive Rubber Foam 10x1.9mm (Specify mt) |
| 180822 | “LEM” Logo Adhesive Plate |
| 150298 | 100x2.5mm Nylon Cable Tie |
| 129962 | WL3.5X25ts Black Screw |
| 120483 | 5mm Black Shakeproof Washer |
| 120482 | 4mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120414 | WL3.5x35tt Black Screw |
| 120411 | WL3.5x20tt Black Screw |
| 120124 | M5x30tc Black Screw |
| 120059 | M4x25tc Black Zinc Plated Screw |

Amplifier Assembly

| SKK737094 Amplifier Assembly (EU) | |
|-----------------------------------|---|
| SKK737095 Amplifier Assembly (US) | |
| SKK768184 | * X-over & LF Amplifier Board (Pcb#EMB-456-60) |
| SKK090017 | ** 2SC5669 TO3P Npn Transistor |
| SKK090018 | ** 2SA2031 TO3P Pnp Transistor |
| SKK090001 | ** TIP42C TO220 Pnp Transistor |
| SKK090000 | ** TIP41C TO220 Npn Transistor |
| 110316 | ** Relay 24V / 1 Switch no 16A 250V |
| 100061 | ** TL072 Dual J-Fet Operational Amplifier |
| 090920 | ** MJE802 TO126 Npn Darl Transistor |
| 090917 | ** MJE350 TO126 Pnp Transistor |
| 090916 | ** MJE340 TO126 Npn Transistor |
| 090201 | ** 2N5401 TO92 Pnp Transistor |
| 090200 | ** 2N5550 TO92 Npn Transistor |
| 090194 | ** BC560C TO92 LN Pnp Transistor |
| 090183 | ** BC550C TO92 LN Npn Transistor |
| 090153 | ** BC327 TO92 Pnp Transistor |

| | | |
|------------------|-----------|--|
| 080901 | ** | VTL5C4 Analog Optoisolator |
| 080821 | ** | Ptc 90 PTH59F04BE222TS |
| 080156 | ** | 1N4002 1A 100V Rectifier Diode |
| 080103 | ** | 1N4148 100mA 75V Signal Diode |
| 060051 | ** | 0E22 5W 5% Wire Resistor |
| 030715 | ** | 1000u 6v3 20% Vert Electrolytic Capacitor |
| SKK768183 | * | Input & HF Amplifier Board (Pcb#EMB-462-H0) |
| 141187 | ** | XLR Female Socket |
| SKK110267 | ** | Slider Switch |
| 140217 | ** | Jack Slim Horizontal S-F Socket |
| 100965 | ** | TDA7294 80W Audio Amplifier with Mute |
| 100084 | ** | TL074 Quad J-Fet Operational Amplifier |
| SKK080706 | ** | Led 3mm Wide Diffused Green |
| SKK074570 | ** | 5K 41steps Linear Potentiometer |
| SKK768003 | * | Supply Board (Pcb#EMB-450-H0) |
| SKK090001 | ** | TIP42C TO220 Pnp Transistor |
| SKK090000 | ** | TIP41C TO220 Npn Transistor |
| 110119 | ** | Fuse Clip 10A max (EU) (US) |
| 080606 | ** | GBU8D 8A Rectifier Diodes Bridge |
| 080292 | ** | 16V 1W 5% Zener Diode |
| 080156 | ** | 1N4002 1A 100V Rectifier Diode |
| SSKK667006 | * | H-350A Painted Frame Panel |
| SKK347030 | * | Rotary Pot Black Knob D=15MM |
| SKK235003 | * | Transformer 230Vac (EU) |
| SKK235007 | * | Transformer 230Vac (US) |
| 110614 | * | Mains Socket |
| 110291 | * | 16A 250Vac Bipolar Power Switch |
| 110018 | * | T6.3A Fuse 5x20mm (EU) |
| 110037 | * | T6.3A Fuse 6.3x32mm (US) |
| 080608 | * | KBPC3502 35A 200V Rectifier Diode Bridge |
| 020491 | * | 100nF 10% 250Vac Polyester Capacitor |

H100MA

| Assembly | | |
|---------------|-------------------------------------|--|
| 717114 | Speaker Cabinet Assembly | |
| 430120 | * Wooden Cabinet with Gray Carpet | |
| 347420 | * Rubber Foot | |
| 347396 | * Belt Handle | |
| 177325 | * Suspension Flange | |
| 120664 | * M6 4-tips Lock Nut | |
| 120661 | * M4 4-tips Lock Nut | |
| 120336 | * WL4x25tt Black Screw | |
| 120111 | * M6x25tsp Black Screw | |
| 120102 | * M4x30tsp Black Screw | |
| 667713 | Speaker Grill | |
| 227063 | 8” 8ohm Full-Range Speaker | |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) | |
| 210217 | Black Sealer (specify mt) | |
| 180822 | “LEM” Logo Adhesive Plate | |
| 120482 | 4mm Black Shakeproof Washer | |
| 120414 | WL3.5x35tt Black Screw | |
| 120411 | WL3.5x20tt Black Screw | |

Amplifier Assembly

| | | |
|--|-----------|---|
| SKK737092 Amplifier Assembly (EU) | | |
| SKK737093 Amplifier Assembly (US) | | |
| SKK768011 | * | Supply Board (Pcb#EMB-449-H0) |
| SKK090001 | ** | TIP42C TO220 Pnp Transistor |
| SKK090000 | ** | TIP41C TO220 Npn Transistor |
| 110119 | ** | Fuse Clip 10A max (EU) (US) |
| 080292 | ** | 16V 1W 5% Zener Diode |
| 080156 | ** | 1N4002 1A 100V Rectifier Diode |
| SKK768008 | * | Input Board (Pcb#EFB-073-H0) |
| 141187 | ** | XLR Female Socket |
| SKK110267 | ** | Slider Switch |
| 140217 | ** | Jack Slim Horizontal S-F Socket |
| 100084 | ** | TL074 Quad J-Fet Operational Amplifier |
| SKK080706 | ** | Led 3mm Wide Diffused Green |
| SKK074570 | ** | 5K 41steps Linear Potentiometer |
| SKK768004 | * | Amplifier Board (Pcb#EMB-447-60) |
| SKK090015 | ** | 2SC5242-O TO3P Npn Transistor |
| SKK090016 | ** | 2SA1962-O TO3P Pnp Transistor |
| SKK090001 | ** | TIP42C TO220 Pnp Transistor |
| SKK090000 | ** | TIP41C TO220 Npn Transistor |
| 110307 | ** | Relay 24V / 2 Switch 5A 250Vac |
| 100061 | ** | TL072 Dual J-Fet Operational Amplifier |
| 090920 | ** | MJE802 TO126 Npn Darl Transistor |
| 090917 | ** | MJE350 TO126 Pnp Transistor |
| 090916 | ** | MJE340 TO126 Npn Transistor |
| 090201 | ** | 2N5401 TO92 Pnp Transistor |
| 090200 | ** | 2N5550 TO92 Npn Transistor |
| 090194 | ** | BC560C TO92 LN Pnp Transistor (BC557C Equivalent) |
| 090183 | ** | BC550C TO92 LN Npn Transistor (BC547C Equivalent) |
| 090153 | ** | BC327 TO92 Pnp Transistor |
| 080901 | ** | VTL5C4 Analog Optoisolator |
| 080821 | ** | Ptc 90 PTH59F04BE222TS |

| | | |
|------------------|----------|---|
| 080156 | ** | 1N4002 1A 100V Rectifier Diode |
| 080103 | ** | 1N4148 100mA 75V Signal Diode |
| 060051 | ** | 0E22 5W 5% Wire Resistor |
| 030715 | ** | 1000u 6v3 20% Vert Electrolytic Capacitor |
| SKK667005 | * | H100MA Painted Frame Panel |
| SKK347030 | * | Rotary Pot Black Knob D=15MM |
| SKK235000 | * | Transformer 230Vac (EU) |
| SKK235004 | * | Transformer 115Vac (US) |
| 110003 | * | T3.15A Fuse 5x20mm (EU) |
| 110061 | * | T3.15A Fuse 6.3x32mm (US) |

H200MA

| Assembly | | |
|------------------|--|---|
| SKK768306 | Crossover Board Assembly (Pcb#313142) | |
| | (this part is replaced entirely only) | |
| 841374 | 50cm Brown/Black 0.75mm² Faston6.3/4.8 Dual Wire | |
| 841338 | 40cm Blue/Black 0.75mm² Faston/Faston Dual Wire | |
| 727662 | Horn Assembly | |
| 347424 | * Horn / Driver Adapter | |
| 347407 | * EWT Gray Elliptical Horn | |
| 229057 | * | 1” 16ohm Diaphragm for 229056 Compression Driver |
| 229056 | * | 1” 16ohm Compression Driver |
| 210267 | * | Gasket between Horn and Box |
| 120346 | * | WL4x20tc Black Screw |
| 120106 | * | M5x10tsp Black Screw |
| 717115 | Speaker Cabinet Assembly | |
| 657293 | * Reflex Duct | |
| 430121 | * Wooden Cabinet with Gray Carpet | |
| 347420 | * Rubber Foot | |
| 177328 | * 220x160mm Metal Handle | |
| 120662 | * M5 4-tips Lock Nut | |
| 120661 | * M4 4-tips Lock Nut | |
| 120341 | * WL4x20tt Black Screw | |
| 120336 | * WL4x25tt Black Screw | |
| 667709 | Speaker Grill | |
| 227102 | 12” 8ohm Woofer Speaker | |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) | |
| 210217 | Black Sealer (specify mt) | |
| 180868 | “H200MA” Adhesive Label | |
| 180822 | “LEM” Logo Adhesive Plate | |
| 150298 | 100x2.5mm Nylon Cable Tie | |
| 129962 | WL3.5X25ts Black Screw | |
| 120483 | 5mm Black Shakeproof Washer | |
| 120461 | 5.3x10x1 Black Washer | |
| 120414 | WL3.5x35tt Black Screw | |
| 120411 | WL3.5x20tt Black Screw | |
| 120124 | M5x30tc Black Screw | |
| 120059 | M4x25tc Black Zinc Plated Screw | |

Amplifier Assembly

| | | |
|--|-----------|---|
| SKK737096 Amplifier Assembly (EU) | | |
| SKK737097 Amplifier Assembly (US) | | |
| SKK768180 | * | Amplifier Board (Pcb#EMB-447-60) |
| SKK090015 | ** | 2SC5242-O TO3P Npn Transistor |
| SKK090016 | ** | 2SA1962-O TO3P Pnp Transistor |
| SKK090001 | ** | TIP42C TO220 Pnp Transistor |
| SKK090000 | ** | TIP41C TO220 Npn Transistor |
| 110307 | ** | Relay 24V / 2 Switch 5A 250Vac |
| 100061 | ** | TL072 Dual J-Fet Operational Amplifier |
| 090920 | ** | MJE802 TO126 Npn Darl Transistor |
| 090917 | ** | MJE350 TO126 Pnp Transistor |
| 090916 | ** | MJE340 TO126 Npn Transistor |
| 090201 | ** | 2N5401 TO92 Pnp Transistor |
| 090200 | ** | 2N5550 TO92 Npn Transistor |
| 090194 | ** | BC560C TO92 LN Pnp Transistor (BC557C Equivalent) |
| 090183 | ** | BC550C TO92 LN Npn Transistor (BC547C Equivalent) |
| 090153 | ** | BC327 TO92 Pnp Transistor |
| 080901 | ** | VTL5C4 Analog Optoisolator |
| 080821 | ** | Ptc 90 PTH59F04BE222TS |
| 080156 | ** | 1N4002 1A 100V Rectifier Diode |
| 080103 | ** | 1N4148 100mA 75V Signal Diode |
| 060051 | ** | 0E22 5W 5% Wire Resistor |
| 030715 | ** | 1000u 6v3 20% Vert Electrolytic Capacitor |
| SKK768179 | * | Input Board (Pcb#EFB-073-H0) |
| 141187 | ** | XLR Female Socket |
| SKK110267 | ** | Slider Switch |
| 140217 | ** | Jack Slim Horizontal S-F Socket |
| 100084 | ** | TL074 Quad J-Fet Operational Amplifier |
| SKK080706 | ** | Led 3mm Wide Diffused Green |
| SKK074570 | ** | 5K 41steps Linear Potentiometer |
| SKK768001 | * | Supply Board (Pcb#EMB-449-H0) |
| SKK090001 | ** | TIP42C TO220 Pnp Transistor |
| SKK090000 | ** | TIP41C TO220 Npn Transistor |
| 110119 | ** | Fuse Clip 10A max (EU) (US) |
| 080292 | ** | 16V 1W 5% Zener Diode |
| 080156 | ** | 1N4002 1A 100V Rectifier Diode |

| | | |
|------------------|----------|---|
| SKK667003 | * | H-Series Painted Frame Panel (SE1595) |
| SKK347030 | * | Rotary Pot Black Knob D=15MM |
| SKK235001 | * | Transformer 230Vac (EU) |
| SKK235005 | * | Transformer 115Vac (US) |
| 110003 | * | T3.15A Fuse 5x20mm (EU) |
| 110061 | * | T3.15A Fuse 6.3x32mm (US) |
| 340154 | * | TO3P/TO218 Mica Washer |
| 340079 | * | TO220 Mica Washer |
| 340078 | * | TO220 Insulated Bush |
| 110285 | * | 4A 250Vac Bipolar Power Switch |
| 110614 | * | 3 Terminal Universal Mains Inlet 10A Faston=6.3mm |
| 080607 | * | KBPC25 25A 200V Rectifier Diode Bridge |
| 020491 | * | 100nF 10% 250Vac Polyester Capacitor |

H300MA

| Assembly | | |
|---------------|-------------------------------------|---|
| 727662 | Horn Assembly | |
| 347424 | * Horn / Driver Adapter | |
| 347407 | * EWT Gray Elliptical Horn | |
| 229057 | * | 1” 16ohm Diaphragm for 229056 Compression Driver |
| 229056 | * | 1” 16ohm Compression Driver |
| 210267 | * | Gasket between Horn and Box |
| 120346 | * | WL4x20tc Black Screw |
| 120106 | * | M5x10tsp Black Screw |
| 717116 | Speaker Cabinet Assembly | |
| 657292 | * Reflex Duct | |
| 430122 | * Wooden Cabinet with Gray Carpet | |
| 347420 | * Rubber Foot | |
| 177328 | * 220x160mm Metal Handle | |
| 120662 | * M5 4-tips Lock Nut | |
| 120661 | * M4 4-tips Lock Nut | |
| 120341 | * WL4x20tt Black Screw | |
| 120336 | * WL4x25tt Black Screw | |
| 667710 | Speaker Grill | |
| 227106 | 15” 4ohm Woofer Speaker | |
| 210273 | Speaker Filler (400gr/m² 50x50x4cm) | |
| 210217 | Black Sealer (specify mt) | |
| 180869 | “H300MA” Adhesive Label | |
| 180822 | “LEM” Logo Adhesive Plate | |
| 150298 | 100x2.5mm Nylon Cable Tie | |
| 120483 | 5mm Black Shakeproof Washer | |
| 120461 | 5.3x10x1 Black Washer | |
| 120414 | WL3.5x35tt Black Screw | |
| 120124 | M5x30tc Black Screw | |
| 120059 | M4x25tc Black Zinc Plated Screw | |

Amplifier Assembly

| | | |
|--|-----------|---|
| SKK737100 Amplifier Assembly (EU) | | |
| SKK737101 Amplifier Assembly (US) | | |
| SKK768178 | * | X-over & LF Amplifier Board (Pcb#EMB-456-60) |
| SKK090017 | ** | 2SC5669 TO3P Npn Transistor |
| SKK090018 | ** | 2SA2031 TO3P Pnp Transistor |
| SKK090001 | ** | TIP42C TO220 Pnp Transistor |
| SKK090000 | ** | TIP41C TO220 Npn Transistor |
| 110316 | ** | Relay 24V / 1 Switch no 16A 250V |
| 100061 | ** | TL072 Dual J-Fet Operational Amplifier |
| 090920 | ** | MJE802 TO126 Npn Darl Transistor |
| 090917 | ** | MJE350 TO126 Pnp Transistor |
| 090916 | ** | MJE340 TO126 Npn Transistor |
| 090201 | ** | 2N5401 TO92 Pnp Transistor |
| 090200 | ** | 2N5550 TO92 Npn Transistor |
| 090194 | ** | BC560C TO92 LN Pnp Transistor |
| 090183 | ** | BC550C TO92 LN Npn Transistor |
| 090153 | ** | BC327 TO92 Pnp Transistor |
| 080901 | ** | VTL5C4 Analog Optoisolator |
| 080821 | ** | Ptc 90 PTH59F04BE222TS |
| 080156 | ** | 1N4002 1A 100V Rectifier Diode |
| 080103 | ** | 1N4148 100mA 75V Signal Diode |
| 060051 | ** | 0E22 5W 5% Wire Resistor |
| 030715 | ** | 1000u 6v3 20% Vert Electrolytic Capacitor |
| SKK768177 | * | Input & HF Amplifier Board (Pcb#EMB-462-H0) |
| 141187 | ** | XLR Female Socket |
| SKK110267 | ** | Slider Switch |
| 140217 | ** | Jack Slim Horizontal S-F Socket |
| 100965 | ** | TDA7294 80W Audio Amplifier with Mute |
| 100084 | ** | TL074 Quad J-Fet Operational Amplifier |
| SKK080706 | ** | Led 3mm Wide Diffused Green |
| SKK074570 | ** | 5K 41steps Linear Potentiometer |
| SKK768003 | * | Supply Board (Pcb#EMB-450-H0) |
| SKK090001 | ** | TIP42C TO220 Pnp Transistor |
| SKK090000 | ** | TIP41C TO220 Npn Transistor |
| 110119 | ** | Fuse Clip 10A max (EU) (US) |
| 080606 | ** | GBU8D 8A Rectifier Diodes Bridge |
| 080292 | ** | 16V 1W 5% Zener Diode |
| 080156 | ** | 1N4002 1A 100V Rectifier Diode |
| SKK667004 | * | H-Series Painted Frame Panel (SE1596) |

| | | |
|------------------|----------|--|
| SKK347030 | * | Rotary Pot Black Knob D=15MM |
| SKK235003 | * | Transformer 230Vac (EU) |
| SKK235007 | * | Transformer 230Vac (US) |
| 110614 | * | Mains Socket |
| 110291 | * | 16A 250Vac Bipolar Power Switch |
| 110018 | * | T6.3A Fuse 5x20mm (EU) |
| 110037 | * | T6.3A Fuse 6.3x32mm (US) |
| 080608 | * | KBPC3502 35A 200V Rectifier Diode Bridge |
| 020491 | * | 100nF 10% 250Vac Polyester Capacitor |

H350SA

| Assembly | | |
|---------------|--|--|
| 717118 | Speaker Cabinet Assembly | |
| 430124 | * Wooden Cabinet with Gray Carpet | |
| 347420 | * Rubber Foot | |
| 347395 | * Plastic Handle | |
| 177783 | * Black Metallic Flange | |
| 120664 | * M6 4-tips Lock Nut | |
| 120662 | * M5 4-tips Lock Nut | |
| 120661 | * M4 4-tips Lock Nut | |
| 120411 | * WL3.5x20tt Black Screw | |
| 120336 | * WL4x25tt Black Screw | |
| 120111 | * M6x25tsp Black Screw | |
| 667788 | Speaker Grill | |
| 227105 | 15” 6ohm Woofer Speaker | |
| 210274 | Speaker Filler (400gr/m² 100x50x4cm) | |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) | |
| 210217 | Black Sealer (specify mt) | |
| 210215 | Adhesive Rubber Foam 10x1.9mm (Specify mt) | |
| 180870 | H350SA Adhesive Label | |
| 180822 | “LEM” Logo Adhesive Plate | |
| 120483 | 5mm Black Shakeproof Washer | |
| 120461 | 5.3x10x1 Black Washer | |
| 120414 | WL3.5x35tt Black Screw | |
| 120124 | M5x30tc Black Screw | |
| 120059 | M4x25tc Black Zinc Plated Screw | |

Amplifier Assembly

| | | |
|--|-----------|---|
| SKK737088 Amplifier Assembly (EU) | | |
| SKK737089 Amplifier Assembly (US) | | |
| SKK768185 | * | Input & Xover Board (Pcb#313042) |
| 141187 | ** | Hor Female XLR Socket (NC3FAH Neutrik) |
| 141186 | ** | Hor Male XLR Socket (NC3MAH Neutrik) |
| 140929 | ** | 9 Contacts Vert Male Connector |
| 140908 | ** | 6 Contacts Vert Male Small Connector |
| 110305 | ** | Relay 12V / 2 Switch 1A 250V |
| 100084 | ** | TL074 Quad J-Fet Operational Amplifier |
| 080734 | ** | 2.5x5mm Rect Diffused Red-Grn Led |
| 080293 | ** | 15V 1W 5% Zener Diode |
| 080103 | ** | 1N4148 100mA 75V Signal Diode |
| 075820 | ** | 4x100KC RK16 Hor Rotary Potentiometer K15 |
| 074570 | ** | 5KB RK16 Hor Rotary Potentiometer K15C31 |
| SKK727562 | * | Power Amplifier Assembly |
| SKK768100 | ** | Supply Board (Pcb#317197) |
| 340079 | *** | TO220 Mica Washer |
| 340078 | *** | TO220 Insulated Bush |
| 100060 | *** | 7815 +15V 1A Voltage Regulator |
| 100049 | *** | 7915 -15V 1A Voltage Regulator |
| 080606 | *** | GBU8D 8A Rectifier Diodes Bridge |
| 080293 | *** | 15V 1W 5% Zener Diode |
| 080156 | *** | 1N4002 1A 100V Rectifier Diode |
| 060403 | *** | 180E 3W 10% Resistor |
| 030884 | *** | 10000U 80V 20% Snap-In Electrolytic Capacitor |
| 030722 | *** | 1000u 35V 20% Vert Electrolytic Capacitor |
| 030555 | *** | 4700u 50V 20% Snap-In Electrolytic Capacitor |
| SKK768094 | ** | Amplifier Board (Pcb#319064/1) |
| 110316 | *** | Relay 24V / 1 Switch no 16A 2 |

| | | |
|--------------------|--|---|
| 340783 | ** | TO264 Mica Washer |
| 340154 | ** | TO3P/TO218 Mica Washer |
| 340079 | ** | TO220 Mica Washer |
| 340078 | ** | TO220 Insulated Bush |
| 090920 | ** | MJE802 TO126 Npn Darl Transistor |
| 090919 | ** | MJE15031 TO220 Pnp Transistor |
| 090918 | ** | MJE15030 TO220 Npn Transistor |
| 090863 | ** | TIP36C TO218 Pnp Transistor |
| 090862 | ** | TIP35C TO218 Npn Transistor |
| 080821 | ** | Ptc 100° PTH9L04BD222TS2F330 Murata |
| SKK667002 | * | H-Series Painted Frame Panel (SE1597) |
| SKK347030 | * | Rotary Pot Black Knob D=15MM |
| SKK237068 * | Transformer 230Vac (EU) | |
| SKK237069 * | Transformer 115Vac (US) | |
| 768109 * | Jack Sockets Board (Pcb#313002) | |
| 778111 | ** | 6 Contacts Female Cable |
| 140217 | ** | Jack Stereo Slim Horizontal Socket |
| 110614 | * | 3 Terminal Universal Mains Inlet 10A Faston=6.3mm |
| 110291 | * | 16A 250Vac Bipolar Power Switch |
| 110029 | * | T4A Fuse 5x20mm (EU) |
| 110018 | * | T6.3A Fuse 5x20mm (EU) |
| 080607 | * | KBPC2502 25A 200V Rectifier Diode Bridge |
| 020491 | * | 100nF 10% 250Vac Polyester Capacitor |
| 110029 | * | T4A Fuse 5x20mm (EU) |
| 110018 | * | T6.3A Fuse 5x20mm (EU) |

H400SA 230V

Assembly

| | |
|---------------|--|
| 717120 | Speaker Cabinet Assembly |
| 657295 | * Reflex Duct |
| 430126 | * Wooden Cabinet with Gray Carpet |
| 347420 | * Rubber Foot |
| 177783 | * Black Metallic Flange |
| 177328 | * 220x160mm Metal Handle |
| 120664 | * M6 4-tips Lock Nut |
| 120662 | * M5 4-tips Lock Nut |
| 120661 | * M4 4-tips Lock Nut |
| 120341 | * WL4x20tt Black Screw |
| 120336 | * WL4x25tt Black Screw |
| 120111 | * M6x25tsp Black Screw |
| 667746 | Speaker Grill |
| 227108 | 18” 4ohm Woofer Speaker |
| 210273 | Speaker Filler (400gr/m² 50x50x4cm) |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) |
| 210217 | Black Sealer (specify mt) |
| 210215 | Adhesive Rubber Foam 10x1.9mm (Specify mt) |
| 180871 | H400SA Adhesive Label |
| 180822 | “LEM” Logo Adhesive Plate |
| 120483 | 5mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120364 | WL3.5x12tt Black Screw |
| 120124 | M5x30tc Black Screw |
| 120059 | M4x25tc Black Zinc Plated Screw |

Amplifier Assembly

| | | |
|--|---|---|
| SKK737090 Amplifier Assembly (EU) | | |
| SKK737091 Amplifier Assembly (US) | | |
| SKK768185 * | Input & Xover Board (Pcb#313042) | |
| 141187 | ** | Hor Female XLR Socket (NC3FAH Neutrik) |
| 141186 | ** | Hor Male XLR Socket (NC3MAH Neutrik) |
| 140929 | ** | 9 Contacts Vert Male Connector |
| 140908 | ** | 6 Contacts Vert Male Small Connector |
| 110305 | ** | Relay 12V / 2 Switch 1A 250V |
| 100084 | ** | TL074 Quad J-Fet Operational Amplifier |
| 080734 | ** | 2.5x5mm Rect Diffused Red-Grn Led |
| 080293 | ** | 15V 1W 5% Zener Diode |
| 080103 | ** | 1N4148 100mA 75V Signal Diode |
| 075820 | ** | 4x100KC RK16 Hor Rotary Potentiometer K15 |
| 074570 | ** | 5KB RK16 Hor Rotary Potentiometer K15C31 |
| SKK727562 | * | Power Amplifier Assembly |
| SKK768100 ** | Supply Board (Pcb#317197) | |
| 340079 | *** | TO220 Mica Washer |
| 340078 | *** | TO220 Insulated Bush |
| 100060 | *** | 7815 +15V 1A Voltage Regulator |
| 100049 | *** | 7915 -15V 1A Voltage Regulator |
| 080606 | *** | GBU8D 8A Rectifier Diodes Bridge |
| 080293 | *** | 15V 1W 5% Zener Diode |
| 080156 | *** | 1N4002 1A 100V Rectifier Diode |
| 060403 | *** | 180E 3W 10% Resistor |
| 030884 | *** | 10000U 80V 20% Snap-In Electrolytic Capacitor |
| 030722 | *** | 1000u 35V 20% Vert Electrolytic Capacitor |
| 030555 | *** | 4700u 50V 20% Snap-In Electrolytic Capacitor |
| SKK768094 ** | Amplifier Board (Pcb#319064/1) | |
| 110316 | *** | Relay 24V / 1 Switch no 16A 250V |
| 100904 | *** | LM393 Dual Comparator |
| 100061 | *** | TL072 Dual J-Fet Operational Amplifier |

| | | |
|--------------------|--|---|
| 090917 | *** | MJE350 TO126 Pnp Transistor |
| 090916 | *** | MJE340 TO126 Npn Transistor |
| 090201 | *** | 2N5401 TO92 Pnp Transistor |
| 090200 | *** | 2N5550 TO92 Npn Transistor |
| 090194 | *** | BC560C TO92 LN Pnp Transistor |
| 090183 | *** | BC550C TO92 LN Npn Transistor |
| 090153 | *** | BC327 TO92 Pnp Transistor |
| 080901 | *** | VTLS5C4 Analog Optoisolator |
| 080245 | *** | 7V5 1W 5% Zener Diode |
| 080171 | *** | FE6B 6A 100V Fast Recovery Diode |
| 080156 | *** | 1N4002 1A 100V Rectifier Diode |
| 080103 | *** | 1N4148 100mA 75V Signal Diode |
| 060051 | *** | 0E22 5W 5% Wire Resistor |
| 030715 | *** | 1000u 6v3 20% Vert Electrolytic Capacitor |
| 030247 | *** | 10u 25V 20% Vert Electrolytic Bipolar Capacitor |
| 090924 ** | MJL21194 TO264 Npn Transistor | |
| 090923 ** | MJL21193 TO264 Pnp Transistor | |
| 340783 | ** | TO264 Mica Washer |
| 340154 | ** | TO3P/TO218 Mica Washer |
| 340079 | ** | TO220 Mica Washer |
| 340078 | ** | TO220 Insulated Bush |
| 090920 | ** | MJE802 TO126 Npn Darl Transistor |
| 090919 | ** | MJE15031 TO220 Pnp Transistor |
| 090918 | ** | MJE15030 TO220 Npn Transistor |
| 090863 | ** | TIP36C TO218 Pnp Transistor |
| 090862 | ** | TIP35C TO218 Npn Transistor |
| 080821 | ** | Ptc 100° PTH9L04BD222TS2F330 Murata |
| SKK667002 | * | H-Series Painted Frame Panel (SE1597) |
| SKK347030 | * | Rotary Pot Black Knob D=15MM |
| SKK237068 * | Transformer 230Vac (EU) | |
| SKK237069 * | Transformer 115Vac (US) | |
| 768109 * | Jack Sockets Board (Pcb#313002) | |
| 778111 | ** | 6 Contacts Female Cable |
| 140217 | ** | Jack Stereo Slim Horizontal Socket |
| 110614 | * | 3 Terminal Universal Mains Inlet 10A Faston=6.3mm |
| 110291 | * | 16A 250Vac Bipolar Power Switch |
| 110029 | * | T4A Fuse 5x20mm (EU) |
| 110018 | * | T6.3A Fuse 5x20mm (EU) |
| 080607 | * | KBPC2502 25A 200V Rectifier Diode Bridge |
| 020491 | * | 100nF 10% 250Vac Polyester Capacitor |
| 110029 | * | T4A Fuse 5x20mm (EU) |
| 110018 | * | T6.3A Fuse 5x20mm (EU) |

Hurricane Passive

Accessories

| | |
|--------|---|
| 951133 | 15mt 2 Conductors Speakon-Speakon Power Cable |
| 277411 | Owner's Manual (Italian-English) |

H150 8 Ohm

Assembly

| | | |
|--|--|---|
| SKK768305 Crossover Board Assembly (Pcb#313142) | | |
| (this part is replaced entirely only) | | |
| 841374 | 50cm Brown/Black 0.75mm² Faston6.3/4.8 Dual Wire | |
| 841338 | 40cm Blue/Black 0.75mm² Faston/Faston Dual Wire | |
| 727662 | Horn Assembly | |
| 347424 | * | Horn / Driver Adapter |
| 347407 | * | EWT Gray Elliptical Horn |
| 229057 | * | 1" 16ohm Diaphragm for 229056 Compression Driver |
| 229056 | * | 1" 16ohm Compression Driver |
| 210267 | * | Gasket between Horn and Box |
| 120346 | * | WL4x20tc Black Screw |
| 120106 | * | M5x10tsp Black Screw |
| 727658 | Input Panel Assembly | |
| 778178 | * | Dual Speakon Cables Assembly |
| 141200 | ** | Speakon Socket (NL4MP Neutrik) |
| 717105 | Speaker Cabinet Assembly | |
| 657292 | * | Reflex Duct |
| 430111 | * | Wooden Cabinet with Gray Carpet |
| 347420 | * | Rubber Foot |
| 347395 | * | Plastic Handle |
| 177325 | * | Suspension Flange |
| 120664 | * | M6 4-tips Lock Nut |
| 120662 | * | M5 4-tips Lock Nut |
| 120661 | * | M4 4-tips Lock Nut |
| 120411 | * | WL3.5x20tt Black Screw |
| 120336 | * | WL4x25tt Black Screw |
| 120111 | * | M6x25tsp Black Screw |
| 667708 | Speaker Grill | |
| 227101 | 10" 8ohm Woofer Speaker | |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) | |
| 210217 | Black Sealer (specify mt) | |
| 180872 | "H150" Adhesive Label | |
| 180822 | "LEM" Logo Adhesive Plate | |
| 129962 | WL3.5X25ts Black Screw | |
| 120483 | 5mm Black Shakeproof Washer | |

| | |
|--------|---------------------------------|
| 120461 | 5.3x10x1 Black Washer |
| 120414 | WL3.5x35tt Black Screw |
| 120411 | WL3.5x20tt Black Screw |
| 120124 | M5x30tc Black Screw |
| 120059 | M4x25tc Black Zinc Plated Screw |

H200 8 Ohm

Assembly

| | |
|--|---|
| SKK768306 Crossover Board Assembly (Pcb#313142) | |
| (this part is replaced entirely only) | |
| 841374 | 50cm Brown/Black 0.75mm² Faston6.3/4.8 Dual Wire |
| 841338 | 40cm Blue/Black 0.75mm² Faston/Faston Dual Wire |
| 727662 | Horn Assembly |
| 347424 | * Horn / Driver Adapter |
| 347407 | * EWT Gray Elliptical Horn |
| 229057 | * 1" 16ohm Diaphragm for 229056 Compression Driver |
| 229056 | * 1" 16ohm Compression Driver |
| 210267 | * Gasket between Horn and Box |
| 120346 | * WL4x20tc Black Screw |
| 120106 | * M5x10tsp Black Screw |
| 727658 | Input Panel Assembly |
| 778178 | * Dual Speakon Cables Assembly |
| 141200 | ** Speakon Socket (NL4MP Neutrik) |
| 717107 | Speaker Cabinet Assembly |
| 657293 | * Reflex Duct |
| 430113 | * Wooden Cabinet with Gray Carpet |
| 347420 | * Rubber Foot |
| 347395 | * Plastic Handle |
| 177325 | * Suspension Flange |
| 120664 | * M6 4-tips Lock Nut |
| 120662 | * M5 4-tips Lock Nut |
| 120661 | * M4 4-tips Lock Nut |
| 120411 | * WL3.5x20tt Black Screw |
| 120336 | * WL4x25tt Black Screw |
| 120111 | * M6x25tsp Black Screw |
| 667709 | Speaker Grill |
| 227102 | 12" 8ohm Woofer Speaker |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) |
| 210217 | Black Sealer (specify mt) |
| 180873 | "H200" Adhesive Label |
| 180822 | "LEM" Logo Adhesive Plate |
| 129962 | WL3.5X25ts Black Screw |
| 120483 | 5mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120414 | WL3.5x35tt Black Screw |
| 120411 | WL3.5x20tt Black Screw |
| 120124 | M5x30tc Black Screw |
| 120059 | M4x25tc Black Zinc Plated Screw |

H300 4 Ohm

Assembly

| | | |
|--|--|---|
| SKK768307 Crossover Board Assembly (Pcb#313144) | | |
| (this part is replaced entirely only) | | |
| 841376 | 50cm Blue/Black 0.75mm² Faston/Faston Dual Wire | |
| 841374 | 50cm Brown/Black 0.75mm² Faston6.3/4.8 Dual Wire | |
| 727662 | Horn Assembly | |
| 347424 | * | Horn / Driver Adapter |
| 347407 | * | EWT Gray Elliptical Horn |
| 229057 | * | 1" 16ohm Diaphragm for 229056 Compression Driver |
| 229056 | * | 1" 16ohm Compression Driver |
| 210267 | * | Gasket between Horn and Box |
| 120346 | * | WL4x20tc Black Screw |
| 120106 | * | M5x10tsp Black Screw |
| 727657 | Input Panel Assembly | |
| 778165 | * | Single Speakon Cables Assembly |
| 141200 | ** | Speakon Socket (NL4MP Neutrik) |
| 717109 | Speaker Cabinet Assembly | |
| 657292 | * | Reflex Duct |
| 430115 | * | Wooden Cabinet with Gray Carpet |
| 347420 | * | Rubber Foot |
| 347395 | * | Plastic Handle |
| 177325 | * | Suspension Flange |
| 120664 | * | M6 4-tips Lock Nut |
| 120662 | * | M5 4-tips Lock Nut |
| 120661 | * | M4 4-tips Lock Nut |
| 120411 | * | WL3.5x20tt Black Screw |
| 120336 | * | WL4x25tt Black Screw |
| 120111 | * | M6x25tsp Black Screw |
| 667710 | Speaker Grill | |
| 227106 | 15" 4ohm Woofer Speaker | |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) | |
| 210217 | Black Sealer (specify mt) | |
| 180874 | "H300" Adhesive Label | |
| 180822 | "LEM" Logo Adhesive Plate | |
| 129962 | WL3.5X25ts Black Screw | |

| | |
|--------|---------------------------------|
| 120483 | 5mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120414 | WL3.5x35tt Black Screw |
| 120411 | WL3.5x20tt Black Screw |
| 120124 | M5x30tc Black Screw |
| 120059 | M4x25tc Black Zinc Plated Screw |

H300 8 Ohm

Assembly

| | |
|--|---|
| SKK768310 Crossover Board Assembly (Pcb#313144) | |
| (this part is replaced entirely only) | |
| 841376 | 50cm Blue/Black 0.75mm² Faston/Faston Dual Wire |
| 841374 | 50cm Brown/Black 0.75mm² Faston6.3/4.8 Dual Wire |
| 727662 | Horn Assembly |
| 347424 | * Horn / Driver Adapter |
| 347407 | * EWT Gray Elliptical Horn |
| 229057 | * 1" 16ohm Diaphragm for 229056 Compression Driver |
| 229056 | * 1" 16ohm Compression Driver |
| 210267 | * Gasket between Horn and Box |
| 120346 | * WL4x20tc Black Screw |
| 120106 | * M5x10tsp Black Screw |
| 727658 | Input Panel Assembly |
| 778178 | * Dual Speakon Cables Assembly |
| 141200 | ** Speakon Socket (NL4MP Neutrik) |
| 717109 | Speaker Cabinet Assembly |
| 657292 | * Reflex Duct |
| 430115 | * Wooden Cabinet with Gray Carpet |
| 347420 | * Rubber Foot |
| 347395 | * Plastic Handle |
| 177325 | * Suspension Flange |
| 120664 | * M6 4-tips Lock Nut |
| 120662 | * M5 4-tips Lock Nut |
| 120661 | * M4 4-tips Lock Nut |
| 120411 | * WL3.5x20tt Black Screw |
| 120336 | * WL4x25tt Black Screw |
| 120111 | * M6x25tsp Black Screw |
| 667710 | Speaker Grill |
| 227107 | 15" 8ohm Woofer Speaker |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) |
| 210217 | Black Sealer (specify mt) |
| 180874 | "H300" Adhesive Label |
| 180822 | "LEM" Logo Adhesive Plate |
| 129962 | WL3.5X25ts Black Screw |
| 120483 | 5mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120414 | WL3.5x35tt Black Screw |
| 120411 | WL3.5x20tt Black Screw |
| 120124 | M5x30tc Black Screw |
| 120059 | M4x25tc Black Zinc Plated Screw |

H350 4 Ohm

Assembly

| | | |
|---|---|---------------------------------|
| SKK768308 Crossover Board Assembly (Pcb#313143) | | |
| (this part is replaced entirely only) | | |
| 841349 | 65cm Blue/Black 0.75mm² Faston/Unsheatd Dual Wire | |
| 841334 | 60cm Green/Black 0.75mm² Faston/Faston Dual Wire | |
| 841208 | 55cm Brown/Black 0.75mm² Faston/Faston Dual Wire | |
| 727657 | Input Panel Assembly | |
| 778165 | * | Single Speakon Cables Assembly |
| 141200 | ** | Speakon Socket (NL4MP Neutrik) |
| 717111 | Speaker Cabinet Assembly | |
| 657295 | * | Reflex Duct |
| 430117 | * | Wooden Cabinet with Gray Carpet |
| 347420 | * | Rubber Foot |
| 177783 | * | Black Metallic Flange |
| 177328 | * | 220x160mm Metal Handle |
| 120664 | * | M6 4-tips Lock Nut |
| 120662 | * | M5 4-tips Lock Nut |
| 120661 | * | M4 4-tips Lock Nut |
| 120341 | * | WL4x20tt Black Screw |
| 120336 | * | WL4x25tt Black Screw |
| 120111 | * | M6x25tsp Black Screw |
| 667787 | Speaker Grill | |
| 229054 | 1.8" 8ohm Tweeter Speaker | |
| 229055 | 1.8" 8ohm Diaphragm for 229054 Tweeter Speaker | |
| 228019 | 8" 8ohm Midrange Speaker | |
| 227103 | 15" 4ohm Woofer Speaker | |
| 210273 | Speaker Filler (400gr/m² 50x50x4cm) | |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) | |
| 210217 | Black Sealer (specify mt) | |
| 210215 | Adhesive Rubber Foam 10x1.9mm (Specify mt) | |
| 180875 | "H350" Adhesive Label | |
| 180822 | "LEM" Logo Adhesive Plate | |
| 129962 | WL3.5X25ts Black Screw | |
| 120483 | 5mm Black Shakeproof Washer | |

| | |
|--------|---------------------------------|
| 120482 | 4mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120414 | WL3.5x35Tt Black Screw |
| 120411 | WL3.5x20Tt Black Screw |
| 120124 | M5x30tc Black Screw |
| 120059 | M4x25tc Black Zinc Plated Screw |

H350 8 Ohm

Assembly

SKK768311 Crossover Board Assembly (Pcb#313150)

(this part is replaced entirely only)

| | |
|---------------|--|
| 841349 | 65cm Blue/Black 0.75mm ² Faston/Unsheat Dual Wire |
| 841334 | 60cm Green/Black 0.75mm ² Faston/Faston Dual Wire |
| 841208 | 55cm Brown/Black 0.75mm ² Faston/Faston Dual Wire |
| 727658 | Input Panel Assembly |
| 778178 | * Dual Speakon Cables Assembly |
| 141200 | ** Speakon Socket (NL4MP Neutrik) |
| 717111 | Speaker Cabinet Assembly |
| 657295 | * Reflex Duct |
| 430117 | * Wooden Cabinet with Gray Carpet |
| 347420 | * Rubber Foot |
| 177783 | * Black Metallic Flange |
| 177328 | * 220x160mm Metal Handle |
| 120664 | * M6 4-tips Lock Nut |
| 120662 | * M5 4-tips Lock Nut |
| 120661 | * M4 4-tips Lock Nut |
| 120341 | * WL4x20tt Black Screw |
| 120336 | * WL4x25tt Black Screw |
| 120111 | * M6x25tsp Black Screw |
| 667787 | Speaker Grill |
| 229054 | 1.8" 8ohm Tweeter Speaker |
| 229055 | 1.8" 8ohm Diaphragm for 229054 Tweeter Speaker |
| 228019 | 8" 8ohm Midrange Speaker |
| 227083 | 15" 8ohm Woofer Speaker |
| 210273 | Speaker Filler (400gr/m ² 50x50x4cm) |
| 210272 | Speaker Filler (400gr/m ² 30x50x4cm) |
| 210217 | Black Sealer (specify mt) |
| 210215 | Adhesive Rubber Foam 10x1.9mm (Specify mt) |
| 180875 | "H350" Adhesive Label |
| 180822 | "LEM" Logo Adhesive Plate |
| 129962 | WL3.5X25ts Black Screw |
| 120483 | 5mm Black Shakeproof Washer |
| 120482 | 4mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120414 | WL3.5x35tt Black Screw |
| 120411 | WL3.5x20tt Black Screw |
| 120124 | M5x30tc Black Screw |
| 120059 | M4x25tc Black Zinc Plated Screw |

H500 4 Ohm

Assembly

SKK768313 Crossover Board Assembly (Pcb#313146)

(this part is replaced entirely only)

| | |
|---------------|--|
| 841334 | 60cm Green/Black 0.75mm ² Faston/Faston Dual Wire |
| 841333 | 65cm Blue/Black 0.75mm ² Faston/Faston Dual Wire |
| 841208 | 55cm Brown/Black 0.75mm ² Faston/Faston Dual Wire |
| 727664 | Horn Assembly |
| 347424 | * Horn / Driver Adapter |
| 347407 | * EWT Gray Elliptical Horn |
| 229051 | * 1" 8ohm Diaphragm for 229048 Driver |
| 229048 | * 1" 8ohm Compression Driver |
| 210267 | * Gasket between Horn and Box |
| 120346 | * WL4x20tc Black Screw |
| 120106 | * M5x10tsp Black Screw |
| 727657 | Input Panel Assembly |
| 778165 | * Single Speakon Cables Assembly |
| 141200 | ** Speakon Socket (NL4MP Neutrik) |
| 717113 | Speaker Cabinet Assembly |
| 657296 | * Reflex Duct |
| 430119 | * Wooden Cabinet with Gray Carpet |
| 347420 | * Rubber Foot |
| 177783 | * Black Metallic Flange |
| 177328 | * 220x160mm Metal Handle |
| 120664 | * M6 4-tips Lock Nut |
| 120662 | * M5 4-tips Lock Nut |
| 120661 | * M4 4-tips Lock Nut |
| 120341 | * WL4x20tt Black Screw |
| 120336 | * WL4x25tt Black Screw |
| 120111 | * M6x25tsp Black Screw |
| 667742 | Speaker Grill |
| 227107 | 15" 8ohm Woofer Speaker |
| 210274 | Speaker Filler (400gr/m ² 100x50x4cm) |
| 210273 | Speaker Filler (400gr/m ² 50x50x4cm) |
| 210217 | Black Sealer (specify mt) |
| 210215 | Adhesive Rubber Foam 10x1.9mm (Specify mt) |

| | |
|--------|---------------------------------|
| 180876 | "H500" Adhesive Label |
| 180822 | "LEM" Logo Adhesive Plate |
| 129962 | WL3.5X25ts Black Screw |
| 120483 | 5mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120414 | WL3.5x35tt Black Screw |
| 120411 | WL3.5x20tt Black Screw |
| 120364 | WL3.5x12tt Black Screw |
| 120124 | M5x30tc Black Screw |
| 120059 | M4x25tc Black Zinc Plated Screw |

H350S 4 Ohm

Assembly

SKK768314 Crossover Board Assembly (Pcb#313147)

(this part is replaced entirely only)

| | |
|---------------|--|
| 41208 | 55cm Brown/Black 0.75mm ² Faston/Faston Dual Wire |
| 727663 | Input Panel Assembly |
| 778165 | * Single Speakon Cables Assembly |
| 141200 | ** Speakon Socket (NL4MP Neutrik) |
| 717117 | Speaker Cabinet Assembly |
| 430123 | * Wooden Cabinet with Gray Carpet |
| 347420 | * Rubber Foot |
| 347395 | * Plastic Handle |
| 177783 | * Black Metallic Flange |
| 120664 | * M6 4-tips Lock Nut |
| 120662 | * M5 4-tips Lock Nut |
| 120411 | * WL3.5x20tt Black Screw |
| 120336 | * WL4x25tt Black Screw |
| 120111 | * M6x25tsp Black Screw |
| 667788 | Speaker Grill |
| 227105 | 15" 6ohm Woofer Speaker |
| 210274 | Speaker Filler (400gr/m ² 100x50x4cm) |
| 210272 | Speaker Filler (400gr/m ² 30x50x4cm) |
| 210217 | Black Sealer (specify mt) |
| 210215 | Adhesive Rubber Foam 10x1.9mm (Specify mt) |
| 180877 | "H350S" Adhesive Label |
| 180822 | "LEM" Logo Adhesive Plate |
| 129962 | WL3.5X25ts Black Screw |
| 120483 | 5mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120414 | WL3.5x35tt Black Screw |
| 120411 | WL3.5x20tt Black Screw |
| 120124 | M5x30tc Black Screw |

H400S 4 OHM

Assembly

SKK768315 Crossover Board Assembly (Pcb#313145)

(this part is replaced entirely only)

| | |
|---------------|--|
| 41208 | 55cm Brown/Black 0.75mm² Faston/Faston Dual Wire |
| 727663 | Input Panel Assembly |
| 778165 | * Single Speakon Cables Assembly |
| 141200 | ** Speakon Socket (NL4MP Neutrik) |
| 717119 | Speaker Cabinet Assembly |
| 657295 | * Reflex Duct |
| 430125 | * Wooden Cabinet with Gray Carpet |
| 347420 | * Rubber Foot |
| 177783 | * Black Metallic Flange |
| 177328 | * 220x160mm Metal Handle |
| 120664 | * M6 4-tips Lock Nut |
| 120662 | * M5 4-tips Lock Nut |
| 120411 | * WL3.5x20tt Black Screw |
| 120341 | * WL4x20tt Black Screw |
| 120111 | * M6x25tsp Black Screw |
| 667746 | Speaker Grill |
| 227108 | 18" 4ohm Woofer Speaker |
| 210273 | Speaker Filler (400gr/m² 50x50x4cm) |
| 210272 | Speaker Filler (400gr/m² 30x50x4cm) |
| 210217 | Black Sealer (specify mt) |
| 210215 | Adhesive Rubber Foam 10x1.9mm (Specify mt) |
| 180878 | "H400S" Adhesive Label |
| 180822 | "LEM" Logo Adhesive Plate |
| 129962 | WL3.5X25ts Black Screw |
| 120483 | 5mm Black Shakeproof Washer |
| 120461 | 5.3x10x1 Black Washer |
| 120411 | WL3.5x20tt Black Screw |
| 120364 | WL3.5x12tt Black Screw |
| 120124 | M5x30tc Black Screw |

Note:

- | | |
|---|---|
| - | All dimensions are in mm unless otherwise specified. |
| - | The screw description is defined as follows: |
| | type of screw + diameter + X + length + type of head |
| | where type of screw is one of these: |
| | M = Metric thread |
| | B = Self-tapping screw for metal |
| | WL = Self-tapping screw for wood |
| | and type of head is one of these: |
| | tc = cylinder Phillips head |
| | ts = flared Phillips head |
| | tt = rounded Phillips head |
| | te = hexagonal nut head |
| | tsp = flat flared Phillips head |
| | tce = cylinder Allen hexagonal head |
| | tspe = flat flared Allen hexagonal head |
| - | The washer description is defined as follow: |
| | hole diameter + X + external diameter + X + thick |
| - | Each spare part is single quantity unless otherwise specified. |
| - | Asterisk prefix explanation: |
| | Omitted = First level spare part. |
| | One asterisk = Second level, part of previous listed first level part. |
| | Two asterisk = Third level, part of previous listed second level part. |
| | Three asterisk = |
| - | Any request for not above mentioned part must encompass specific description including: |

- 1) Model name,
- 2) Section name,
- 3) Module code,
- 4) Reference name,
- 5) Quantity number.

