



ELECTROCOMPANIET

If music really matters™



AW 180

Monaural class A Power Amplifier

Owner's Manual

EN

ENGLISH

Welcome to the world of Electrocompaniet!

We thank you for choosing an Electrocompaniet high-end product.

At Electrocompaniet we are relentlessly focused on developing audio equipment that is capable of bringing the fabulous experience of the concert hall into the very heart of your home.

Our aim when developing and testing new products is to ensure that the wonderful richness of tone and every nuance of feeling and emotion of a piece of music is delivered to you just as the artist intended.

We continually strive to give you the very best musical listening experience available whatever your preferred musical genre.

Sincerely yours
Mikal Dreggevik
CEO



The design features of Ampliwire 180 Mono

After the Electrocompaniet 25 watt amplifier had established a new standard for transistor amplifiers, research was undertaken to find ways to make the amplifier even better, and to extend its highly musical sound quality to more powerful amplifier designs. The engineers at Electrocompaniet were not satisfied by only reducing the commonly recognized types of distortion to low levels. They recognized that distortion appears in many forms, and that distortion was still audible in listening tests even when conventional categories of distortion were at astonishingly low levels.

Traditionally, designers increased feedback to make a larger portion of the output signal control the amplifiers response. Our listening tests showed us that simply applying more feedback was not the answer. In fact, as one kind of distortion went down, other parameters would be adversely affected, leading to an overall degradation of sound quality. We knew that the other conventional design approach of eliminating feedback completely was not the answer either, because this would cause high distortion levels, and as a result would produce a “woolly” sound.

The answer to the dilemma was found in a novel approach to feedback theory. We developed a feedback concept that allowed local feedback to be applied around individual stages of the amplifier circuit. This approach allowed us to avoid the sonic disadvantages of overall feedback from output to input. The concept was further developed to reduce phase and interphase distortion between stages of the amplifier as well. We were able to concentrate the loop feedback on the stages of the amplifier where it resulted in audible improvement.

Stability margins were also expanded because feedback no longer affected the frequency response. The use of this concept of individual gain blocks - complex in design but simple in function allowed us to reduce distortion to minute values in all the products.

The amplifier is divided into two separate sections or gain blocks. The input block is a transconductance amplifier without overall feedback. This avoids large output current being fed back to the input, and mixed with the minute input signal. The output block is a transresistance amplifier with parallel feedback. This is done to prevent higher frequencies than the feedback loop can handle, from entering the loop. An approach like this will prevent Transient Inter modulation Distortion (TIM) and Slewing Induced Distortion (SID), eliminating the need for an extremely wide bandwidth.

All stages work in Class A with an efficiency of less than 0,1%. The power supply of the AW180 consists of one 650 VA toroidal transformer. Furthermore, the power supply consists of a 60.000 micro farad reservoir divided into six 10.000 micro farad capacitors in parallel with 4,7 and 0,1 micro farad polycarbonate and polypropylene capacitors.

Unpacking the amplifier:

Immediately upon receipt of the amplifier, inspect the carton for possible damage during shipment. If the carton is visibly damaged, a claim must be filed with the carrier as soon as possible.

Unpack the unit carefully, and please do remember to save all packaging materials for future shipment. The carton and packaging have been designed to offer the safest possible protection when transporting your amplifier.

The content of the carton is as follows:

- 2 pcs. Electrocompaniet Ampliwire AW 180 Mono
- 2 pcs. AC power cord
- 1 pc. Owner's Manual
- 1 pc. Spare fuse, 10.0 AT slow-blow 5x20mm (120V AC)
6.3 AT slow-blow 5x20mm (220V AC)

The actual spare fuse is located inside the AC 3 pin receptacle.

Connecting the AW 180 (illustration page 10):

Connecting to mains

Check that the mains voltage printed on the rear panel of the amplifier corresponds with the line voltage in the territory where you intend to use your amplifier.

How to avoid damages

A good operating practice is to turn off all equipment before any connections or disconnections are made. Do not under any circumstances connect or disconnect equipment when power is turned on. If you insist on connecting or disconnecting while power is turned on, you should be aware that this can generate a large transient when inserting the plug. This could damage both the speakers and the amplifier.

The rear panel

The rear panel of the AW 180 is equipped with loudspeaker terminals and two sets of XLR input sockets, one XLR female socket and one XLR male socket for each channel.

Inputs

For optimal performance, the AW180 should be used in balanced mode with balanced XLR cables. (ie. the preamplifier should have balanced outputs.)

Link

This XLR output can be used to link more amplifiers together and the link output signal will be exactly the same as on the input. Do not short these outputs to ground or together.

XLR input and link cable configuration (illustration page 9)

XLR input: 1 = ground 2 = positive 3 = negative

Make sure pin 2 and pin 3 are not interchanged, as this will cause the system to operate out of phase, with very poor bass response as a result.

Single ended operation

For single ended operation use an RCA to XLR adapter (Electrocompaniet ECP5XLR).
Connect ECP5XLR to the XLR input.
Connect the RCA interconnect to the input on the ECP5XLR

Operating instructions:

How to turn on your system

You should always turn on your equipment in this order: Signal source devices (CD, tuner, etc) and preamplifier are turned on first. Allow 30 seconds of preheating before you turn on your power amplifier. When turning your system off, you should start by switching off your power amplifier, then the preamplifier, and finally your signal source devices. After switching on the power amplifier, there will be a 5 seconds delay before the speakers are connected. This will prevent large turn on/off transients to reach the speakers.

Replacing a blown main fuse (page 8)

Always remove the AC cord from the Inlet. The main fuse is located inside a small drawer in the AC inlet of the unit. If, for some reason the fuse blows, turn the unit off, and remove the AC cord from the inlet. Open the drawer with a small screwdriver and remove the broken fuse. The spare fuse is located in the hole in front of the main fuse. Push the new fuse gently out of the hole, and place it in correct position (where the blown fuse was removed). Push the drawer gently back to the closed position, connect the power cord and turn the unit on. Never replace a blown fuse with other values than printed on the unit.

Never replace a blown fuse with other values than printed in this manual:

10.0 AT slow-blow 5x20mm (120V AC)

6.3 AT slow-blow 5x20mm (220V AC)

Warning:

 The amplifier will be warm. Due to the high class A operating point used in the Electrocompaniet design, it is normal that the amplifier feels warm. Proper ventilation will be needed, and the amplifier should not be covered in. A good rule is to allow 1 - 2 inches of air sidewise, and 2 - 3 inches above the amplifier. If placing the amplifier on the floor, be aware of carpets that can obstruct the ventilation underneath the amplifier.

Technical Specifications AW180:

The following technical data were measured on randomized test objects and are typical data.

Amplifier section

Main voltage 120 V / 240 V. Clipping point of the amplifier is set to a level where total harmonic distortion (THD) is 0.2 %.

- Output Impedance: (20 Hz - 20 kHz) 0,008 Ohm
- RCA (single) input impedance: 220 kOhm
- XLR (balanced) input impedance: 110 kOhm
- Input sensivity for rated output: 1 V
- Max. peak current > 100 A
- THD (measured at 1 kHz half power 8 Ohm) < 0,001 %
- THD (measured at 1 kHz -1 dB, 8 Ohm) < 0,001 %
- Noise (measured with both inputs shorted):
 - 400 Hz - 30 kHz : 90 μ V
 - 10 Hz - 30 kHz : 100 μ V

Rated output power

10 % change in line voltage will give app. 20 % change in output power.

- 8 Ohm 250 W
- 4 Ohm 380 W
- 2 Ohm 625 W

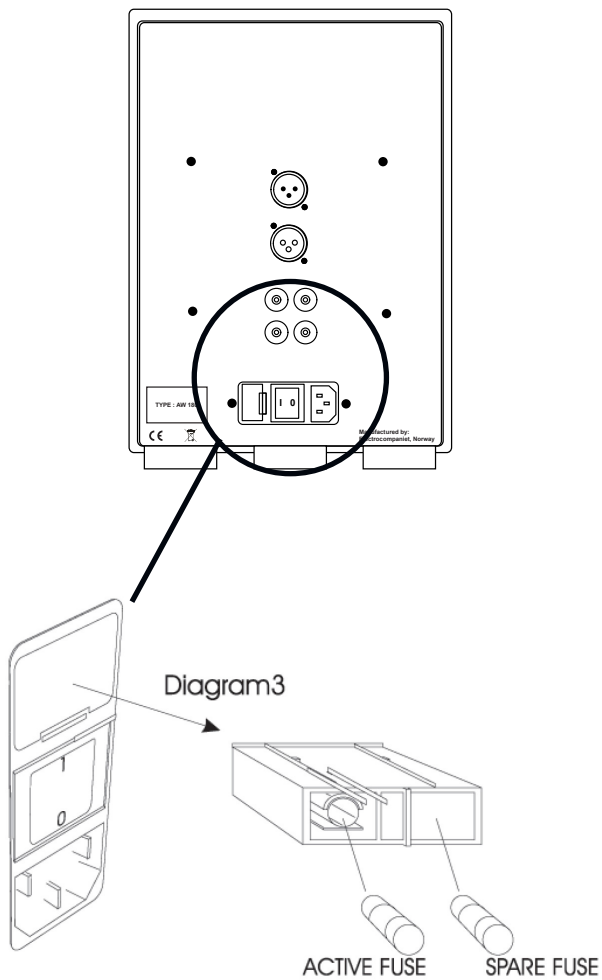
Power consumption (no load or signal) 115 W

Dimensions

- Width 215 mm / 8.5 inches
- Depth 470 mm / 18.5 inches
- Height 288 mm / 11.3 inches
- Weight 22kg. / 48.4 lbs.

*The manufacturer reserves the right to alter these specifications without further notice.

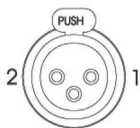
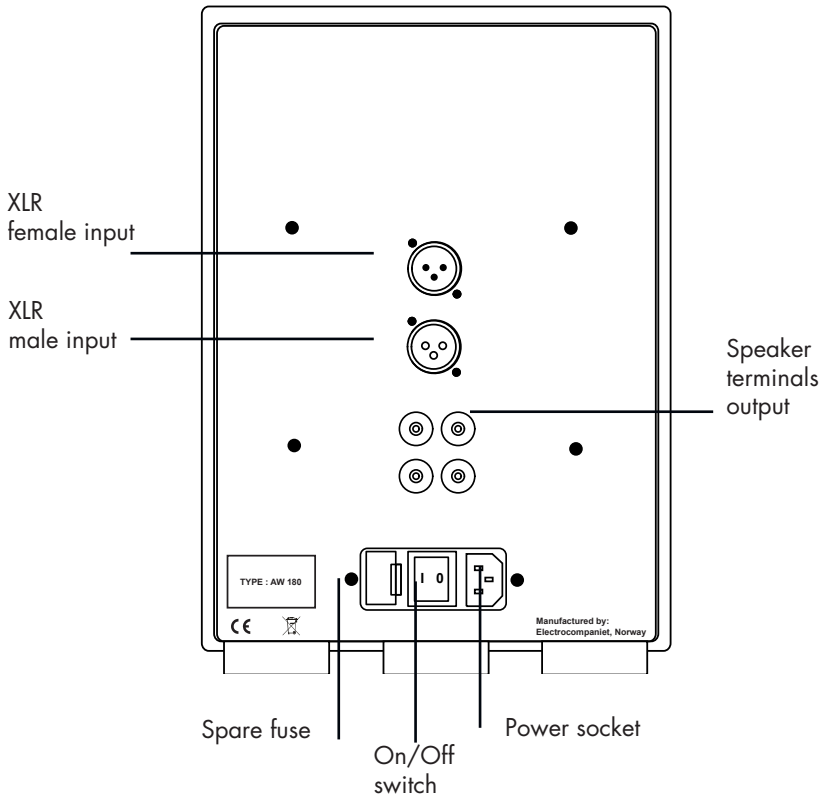
Replacing a blown main fuse:



10.0 AT slow-blow 5x20mm (120V AC)

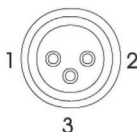
6.3 AT slow-blow 5x20mm (220V AC)

Rear panel overview:



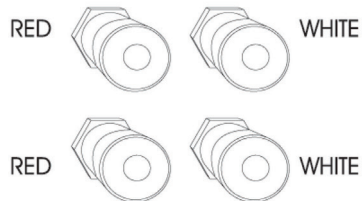
3
XLR INPUT

1 = Gnd
2 = +
3 = -



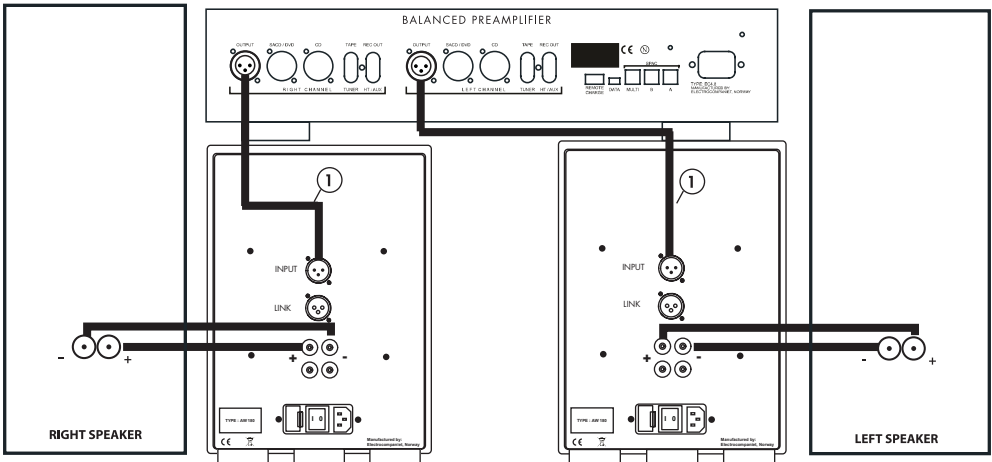
3
XLR OUTPUT (LINK)

Diagram4



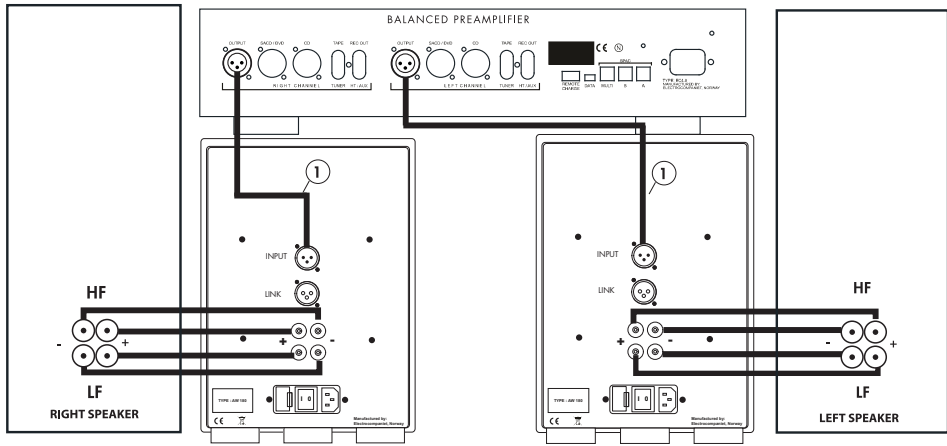


Connection diagram



1: Standard XLR cable

BI-WIRING



1: Standard XLR cable

If Service is needed

Your dealer will have all relevant information regarding the service centers in your area, and will ensure that your unit is serviced with minimum delay. It is our general policy to have your unit returned to you within five working days. This is an average time, and can vary locally, depending on the workload at that particular service station. If, for some reason, there are no service facilities available in your country, please ship the unit to the following address:

Electrocompaniet as,
Breivikveien 7,
N-4120 Tau,
Norway
Web: www.electrocompaniet.no

Service department: www.electrocompaniet.no/support

The end user is responsible for all shipping charges, insurance, re-importation and duty charges.

When shipping a product to the factory for service, always include the following:

1. A sales slip or other proof of purchase if repair is claimed under warranty.
2. A proforma invoice with value of goods, stating that the AW 180 is returned to Norway for repair.
3. An accompanying letter describing faults, symptoms, or problems with the unit.
4. Always ship the unit in its original carton and packaging material to prevent damage in transit.

Electrocompaniet will not cover damages incurred in transit. If you require further information concerning the operation of the unit, or if you have any questions related to service, please do not hesitate to contact your dealer or your national distributor.



ELECTROCOMPANIET

If music *really* matters™

DEALER
STICKER
HERE

LOCAL DEALER

Warning!

To avoid risk of fire or electric shock, do not expose this appliance to rain or moisture.

Verify line voltage before use.

Do not remove cover. No user serviceable parts inside.

Refer servicing to qualified service personnel.

The warranty is void if the product is tampered with by non-authorized personnel.

Use only authorized Electrocompaniet service center.

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Made in Norway
www.electrocompaniet.no