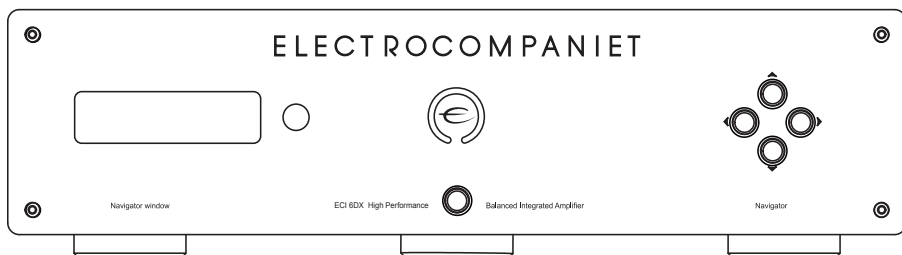# ELECTROCOMPANIET

If music really matters™

ECI 6DX

Balanced Integrated Amplifier
with built-in DAC and next-gen streamer

Owner's Manual

Rev 1.0

EN

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

Unpacking the ECI 6DX

Immediately upon receipt of the ECI 6DX, inspect the carton for possible damage during shipment. The carton and packaging have been designed to provide the safest possible protection for transport of your integrated amplifier. Unpack the unit carefully. Save all packaging materials for future shipment.

The contents of the carton

- 1 pc. Electrocompaniet ECI 6DX Integrated amplifier
- 1 pc. AC main cord.
- 1 pc. Spare main fuse (located in the fuse drawer, 3.15AT /250VAC or 5AT/115VAC)
- 1 pc. Inspection card.
- 1 pc. Owner's manual.
- 1 pc. IR Remote control .
- 2 pcs. Batteries.

Set up procedure
Before connecting the ECI 6DX to the AC Power outlet, check that the main voltage indicated on the rear panel corresponds to the line voltage in the country where you intend to use the unit.

How to avoid damages
Do not under any circumstances connect or disconnect equipment when power is turned on. The design of the RCA plug generates a huge transient when inserted. Connecting or disconnecting equipment with the power on can result in severe damage to both speakers and amplifier.

How to avoid noise problems
The ECI 6DX contains delicate circuits that are sensitive to magnetic stray fields. The unit should not be placed near power voltage transformers, TV sets etc. Care should also be taken regarding placement of the interconnect cables. Do not run interconnect cables in parallel with main cords or speaker cables. Keep interconnect cables as short as possible.

How to avoid possible antenna problems
In some set-ups hum may occur when you connect the radio, VCR or TV to your system. The problem is caused by DC voltage coming from your antenna. Please contact your cable network operator.

How to connect your system
Please read this page carefully and follow page 18-19 as reference.

Balanced XLR input and operation

The balanced mode can only be used if the signal source has a balanced output. Use an XLR interconnect with GND on pin 1, + on pin2, and - on pin 3. To use the balanced input with a single ended source, connect the ECP5XLR in the XLR.

Single ended RCA input and operation:

The left channel is the top row on the rear, marked black. All inputs are similar regarding sonic performance. Unused inputs may be shorted to ground, using a RCA shorting plug.

HT (Home Theatre)

HT is a direct input where the volume control is bypassed. ECI 6DX will work like a power amplifier with fixed gain. When selected the output will be muted for a few seconds as a safety against accidental overload.

Preamp out:

The preamp out is dependent on the volume control setting, and MUTE function. These outputs (balanced and single ended) can be used to control an additional power amplifier.

Speaker output:

Never short the positive output to ground or chassis. Switch the amplifier off when connecting the speakers.

How to power up your system

You should always power up your system the following way:
Signal sources (CD player, tuner etc.) first. Allow a 30 seconds warm-up before you turn on the ECI 6DX.

When switching off your system

Start with the ECI 6DX, then the signal sources. If the preamplifier output is connected to a power amplifier, then turn off the power before or at the same time as ECI 6DX.

SPDIF inputs

ECI 6DX will accept optical SPDIF sources up to 96 kHz/24bit on inputs TOSLink1 and TOSLink2. Please use a optical TOSLink cable for this connection. Connect coaxial sources up to 192kHz/24bit to inputs COAX1 and COAX2. Please use a coaxial SPDIF cable for this connection.

12V trigger Input/Output

The 12V trigger output may be used to automatically power up a CD-player (or other equipment with 12V trigger input) when ECI 6DX is powered up. When ECI 6DX powers up the 12V trigger output will be set to 12V and will support up to 75 mA current output. Please keep the current draw below 75 mA by limiting the number of devices connected to the 12V trigger output.
The ECI 6DX will power up (leave standby) when a voltage in range 8-20V (AC or DC) is present on the 12V trigger input, and stays powered on for as long as the voltage is present. The current draw at the 12V trigger input is 3.3mA.

RS-232 Control Port

The RS-232 control port may be used in home installation setups or general usage for controlling basic functionality on the ECI 6DX. Please refer to document "ECI6DX RS232 Command Reference V1.pdf" for further information. This document may be downloaded from www.electrocompaniet.no

Streaming from your network, or the internet

The media streamer of the ECI 6DX can connect to your network wirelessly, or using a cable. For optimal stability, a cabled connection is recommended.
Since the ECI 6DX supports gigabit ethernet, category CAT5e or higher is recommended. We recommend the use of unshielded cables (UTP), to avoid ground loops.
When using a wireless connection, one has a choice between using a 2.4GHz or a 5GHz network. The optimal choice is highly dependent on the environment. Generally speaking, 5GHz is recommended for short-range, since it will then offer the highest throughput and stability. At longer ranges, 2.4GHz is recommended, due to its superior range.

Direct USB input (square USB-B connector):
This connection is to use the amplifier as a sound-card for your PC. It allows you to play up to 196kHz/24b directly through the DAC of the amplifier.

### USB media library input (rectangular USB-A connector):
This connects to the streamer and allows you to attach music storage media, such as USB disks and hard drives. These can then be added to the music library, making these files always available for playback.

FIRST TIME SETUP

The first time you set up a wireless system without a screen and keyboard, may present quite a challenge, reminding of a classic "chicken or the egg" problem. We need to be connected to the system in order to input the Wi-Fi password, but without a wi-fi connection this is not possible. So until the Wi-Fi password is set in the system, we can not communicate via Wi-Fi.

The system supports multiple ways of doing this first time setup, but in this guide we will only describe the initial setup based on a LAN cable connection.

iOS / Android/ PC or Mac

WiFi link

LAN Cable
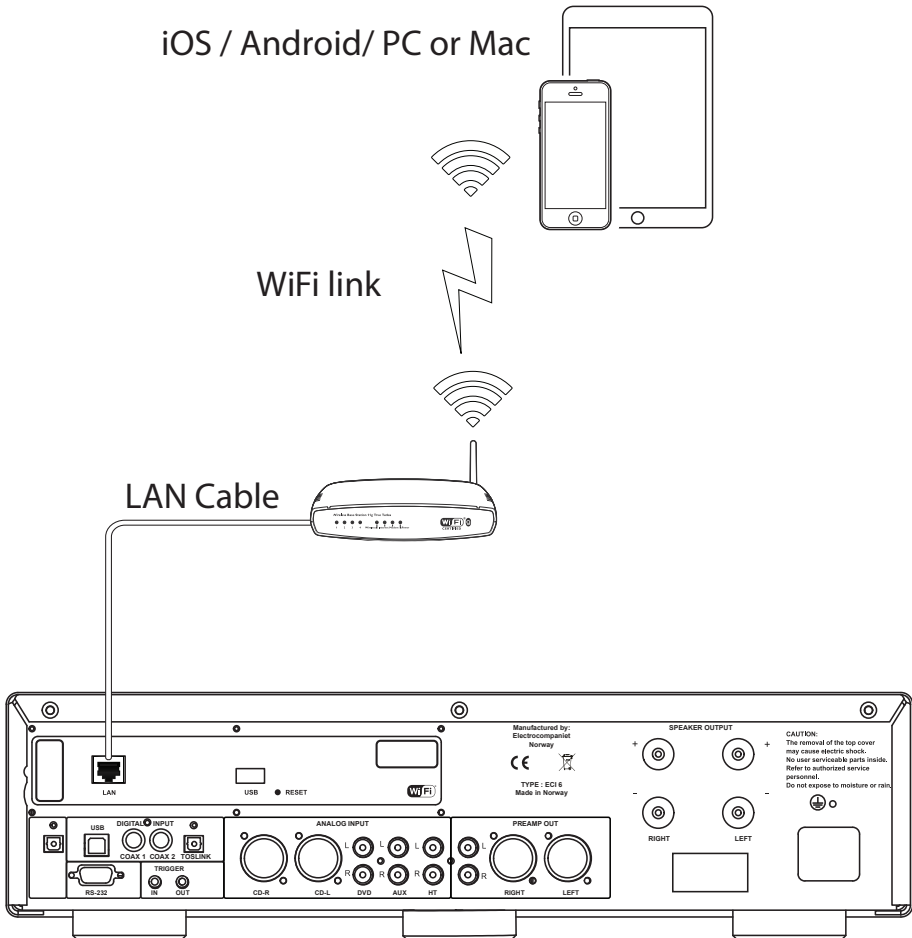
PREPARATION FOR SET UP PROCEDURE
The first time you set up your ECI 6DX

Download the "EC Remote" App
The free App is available at Apple store or Google Play. Search for: "EC remote" or "Electrocompaniet"
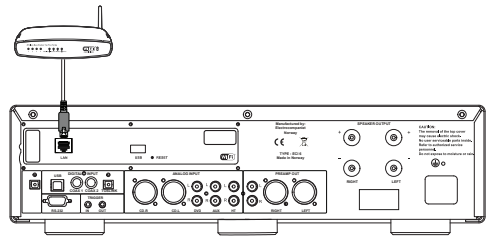
OR

Use your PC, Mac or Linux machine with a web browser

Connect to your router
In order to establish a Wi-Fi connection you have to use a LAN cable which connects to you local network, or directly to your router.

LAN cable is not included. Please use any standard RJ45 cable.

Connect the power cable
Power up the ECI 6DX by connecting the power cable included in the box and pressing a power button at the front panel. Before continuing, check that you have a glowing led on the front panel.

ELECTROCOMPANIET
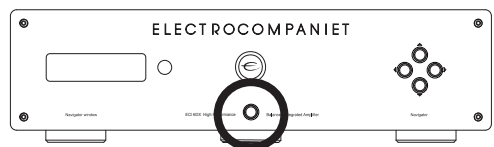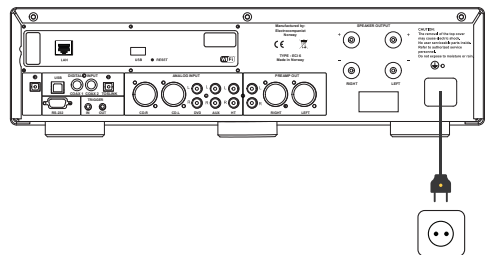
FOLLOW THE ON-SCREEN INSTRUCTIONS

RECOMMENDED

Start your "EC Remote" App
As long as you have downloaded the App following the previous instructions, you will find the App where you normally find other Apps on your device. The first thing to do is to select your new ECI 6DX.

Tap **ZONE BUTTON**

Now select your ECI 6DX. For example the unit name can be "ECI 6DX 1". If no name is listed, tap the refresh icon at the top bar to rescan for your ECI 6DX. When you find your unit, tap on the name to start the setup.

OR

Use a web browser
Enter the address of your ECI 6DX in the web browser.
If you are using a Mac or Linux machine, this will be "ECI6DX-<number>.local". Where <number> are the last 4 digits of the serial number, excluding leading zeros
(e.g. "ECI6DX-565.local").
On a PC, please enter the system's IP address. You may find this address in your router, by referencing the EC Livings MAC address. Please follow your router manufacturer's instructions for finding an IP address given a MAC address.

A Zone is the name we use for the area this device is planned to cover. Typical Zones could be livingroom, bedroom, kitchen etc.

Begin the Initial Setup
Simply tap START to begin the setup of the new ECI 6DX.

Select your language
Just select your language. It will send you automatically to the next screen.

Name your ECI 6DX (*Give your unit a zone name if you plan to expand*)
You can give your ECI 6DX any name you want. Examples of name is Livingroom, Kitchen, Bedroom, Bathroom. Tap ENTER or Return on the keyboard when you have entered your unit name. Tap **Next** (upper right corner) when you are done.

Test of audio output

Tap the button **START TEST.** A standard "white noise" sound should be played on both speakers. Wait until the test sound stops.
Tap **Next** (upper right corner) when you are done.

Check the Internet access

The system will now check the internet connectivity. If the system finds a stable internet connection the spinning circle will be replaced with a green mark.
Press **Next** (upper right corner) when you are done.

Include your music files

"Add libraries" let's you access your music stored on other devices through ECI 6DX. If your music library is big, we recommend you to do this after the initial setup. You can do this later under the SETTINGS menu from the main menu.

Music services login

Choose your streaming service and fill in your Wimp, Tidal and/or Qobuz account details. You can also do this later at any time in the SETTINGS menu from the main menu. Tap **Next** (upper right corner) when you are done.

You are done, tap FINISH to complete

You have now completed the setup of your system. For test, please select **Internet radio** from the main screen. Swipe left to select *Top100* stations and pick a station to test the system.

ENABLING WIRELESS CONNECTION

This step is only necessary if you want the system connected to your wireless network. If you want to continue using wired connection (LAN cable), simply skip this page.

(We recommend using wired connection if possible to reduce Wi-Fi traffic and achieve best possible stability for the system.)

Wireless network setup:

1. Tap **SETTINGS** at the main menu.
2. Tap **NETWORK**
3. Scroll down and tap **CONNECT TO NETWORK**
4. Select your wireless network. (Mobile/tablet must be on the same network)
5. Enter your password, tap "Join" or "OK"
6. Remove the LAN cable and wait until the ZONE button appear. Tap ZONE and reselect your EC Living system.

If you lose connection with the system, reconnect the network cable and check your network password carefully.

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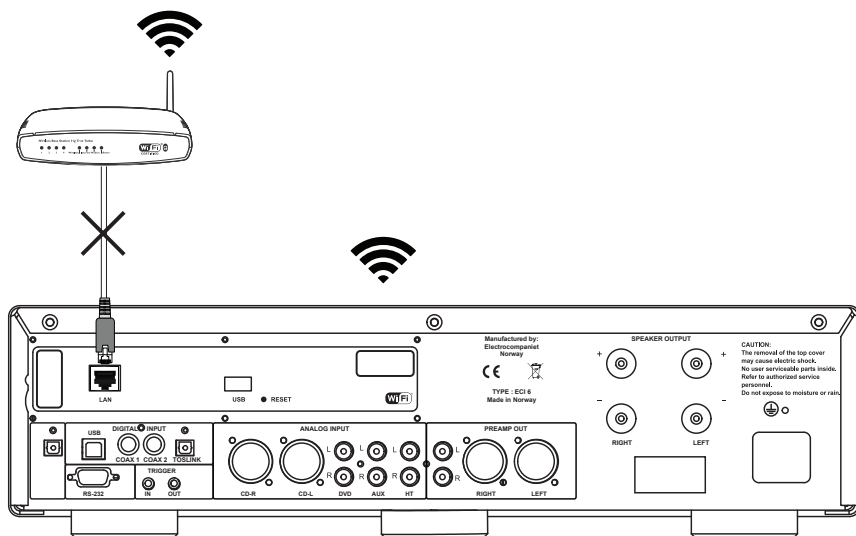
Navigator window

Audio Source	Display Text	Description
CD	CD	Analog balanced XLR input
AUX	AUX	Analog single-ended RCA input
DVD	DVD	Analog single-ended RCA input
HT	HT	Analog single-ended home theater RCA input
COAX 1	COAX1	Coaxial S/PDIF input up to 192 kHz/24 bit
COAX 2	COAX2	Coaxial S/PDIF input up to 192 kHz/24 bit
TosLink 1	TOSLNK1	Optical S/PDIF input up to 96 kHz/24 bit
TosLink 2	TOSLNK2	Optical S/PDIF input up to 96 kHz/24 bit
USB	USB	Asynchronous High Speed USB 2.0 input up to 192kHz/24bit
Streamer	\<Current source\>	Streaming audio from network or internet. Streaming source is shown on the display (e.g. "TIDAL")

Front panel (see illustration, page 16)

The main switch is located in the center of the lower part of the front panel. In daily operation, switch off the ECI 6DX by press and hold the Mute button on the remote control (see page 13). If the ECI 6DX has been switched off, allow two hours of warm-up for optimal sonic performance. When the ECI 6DX is not to be used for a long period of time, use the main switch to turn the unit off. Then disconnect the AC main cord for maximum safety.

Navigator

Button	Function	Description
UP	Volume Up	Increases the volume level.
DOWN	Volume Down	Decreases the volume level.
LEFT	Select source left	Selects the next source to the left.
RIGHT	Select source right	Selects the next source to the right.

Replacing a blown main fuse

The main fuse is located in a small drawer inside the AC inlet of the unit. If, for some reason the fuse is blown, turn the unit off, and remove the AC cord from the AC inlet. Open the drawer with a small screwdriver and remove the blown fuse. The spare fuse is located inside a holder in front of the main fuse.

1. Remove the spare fuse gently by pushing it sideways out of its holder.
2. Insert the spare fuse as the active fuse.
3. Push the drawer gently back to closed position.
4. Re-insert the AC cord and turn the unit on.

Never replace the fuse with another value than indicated on the unit!

Input configurations

XLR input: 1 = ground 2 = positive 3 = negative
RCA: Center = positive Circle = ground.

Output configurations

XLR output: 1 = ground 2 = positive 3 = negative
Speaker: Red = positive Black or White = ground

ECP5XLR:
RCA to XLR adapter: 1 & 3; ground and negative = shorted 2 = positive

Updating the ECI 6DX firmware

When connected to the internet, the ECI 6DX will automatically download and install the latest firmware.
For release notes and further information, please refer to our website, in the "Firmware and software" area (under "Downloads").

ERROR CODES

If the ECI 6DX is not working properly, the display will show an error code.

The error codes are:

Display Error text	Description	What to do
DC FAULT LEFT	DC voltage left channel	Please contact service center.
DC FAULT RIGHT	DC voltage right channel	
DC	DC left + right channels	
OVERLOAD FAULT LEFT	Overload of left channel	Make sure that the + and – leads of the loudspeaker cables are not shorted, and that the speaker cables are not in contact with the chassis of ECI 6DX.
OVERLOAD FAULT RIGHT	Overload right channel	
OVRLOAD	Overload left+right channels	
TEMPERATURE	Over temperature left+right channel	The amplifier is overheated. This is caused by either playing to loud for a long period of time, or not enough free space on the sides or above the ECI 6DX. Turn down the volume and make sure there is enough free space around the amplifier.

For troubleshooting please contact your local dealer or our support department. All contact information you will find at www.electrocompaniet.no

ECI 6DX STATUS INDICATORS (see illustration, page 16)

There are three status LEDs on a front panel indicating the status of your system.

LED	Colour	System state	Led state
●○○	Green	Start-up	Flashing fast, then on only for 10s
●○○	Green	Scanning library	Flashing slow. Will turn off when the scanning is completed
○●○	Orange	No network	Solid
○○●	Red	Recovery	Solid
●○●	Recovering USB	Solid	Solid

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TIPS AND TROUBLESHOOTING

Streaming from Apple devices
On Apple devices, it is possible to stream all audio from your iPhone/iPad to the ECI 6DX via a system called "Airplay". This is represented by this symbol

We recommend to **not** use this system when playing from Spotify, Wimp, and Tidal. Instead, use our EC Remote App to control playback.
For Spotify, use Spotify connect, as represented in the Spotify App by the speaker icon. This will allow ECI 6DX to stream directly from the internet, which optimizes the bandwidth, and saves battery life on your iPhone/iPad.

Connecting to WiFi
We recommend that the ECI 6DX has a link quality of minimum 70%, and better than 40 Mb/s link speed. This can be verified in our App, in the Settings -> Network menu. Higher link quality and speed is recommended for a better user experience. We recommend a wireless AC router with MIMO technology for maximum performance.

Resetting your system
If your system acts strangely, it can be reset to its default settings by using a paperclip to press the RESET button on the back (see illustration "rear panel overview")
The yellow led will blink a few times, after which the green led on top of the speaker will start to blink. The unit will have restarted into the initial setup and you can then follow the steps in this quick start guide.
To fully reset the software of the system, please go to support chapter of our electro-companiet.no website and follow the instructions for software download.

Technical specifications ECI 6DX:

The following technical data were measured on randomized test objects and are typical data. All measurements are made at 120V / 240V // 50Hz / 60Hz. Clipping point of the amplifier is set to a level where total harmonic distortion (THD) is 0.2 %. Fuse value: 250VAC/ 3.15AT, 115VAC/5AT.

Preamplifier section:

Input impedance (Balanced input).. 47 kOhm
Noise floor (1Vrms, 20 - 20 kHz, balanced)... < -135 dB
THD + N (1Vrms, 20 - 20 kHz, balanced) .... <0,003%
Gain (Balanced)..0 dB

Amplifier section:

Output Impedance ....< 0,02 Ohm
Frequency response (- 3 dB)...1 – 150 kHz
Channel separation...> 120 dB
THD + N (20 - 20 kHz)..< 0,004%
Maximum peak current..>100A
Damping factor (8 ohm load)...>350
Input sensitivity   (125W output)..1.3Vrms
Input sensitivity HT (125W output)..1Vrms
Gain HT (input)..31dB (x36)

SPDIF inputs.. 2 x Coax, 2 x TOSLink
USB...1x 192kHz/24bit

Streamer section:

- Advanced 802.11 AC WiFi with MIMO
- 1x Gigabit Ethernet (1000Mbps)
- 1x USB for external storage
- iOS, Android and web app

Rated output power 10 % change in line voltage will give approximately 20 % change in output power.
8 Ohm...2 x 125 W
4 Ohm...2 x 200 W
2 Ohm...2 x 370 W

Power consumption (no load or signal)..110 W
Standby...1W
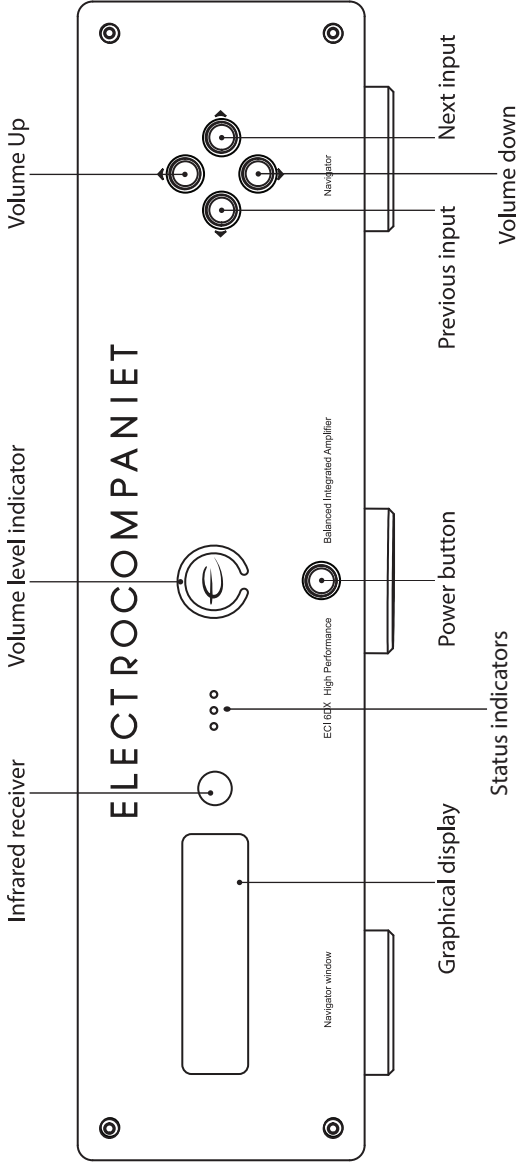
Dimensions

Width: 483 mm - 19 inch
Depth: 405 mm - 16 inch
Height: 135 mm - 5,3 inch
Weight: 20 Kg - 44 lbs
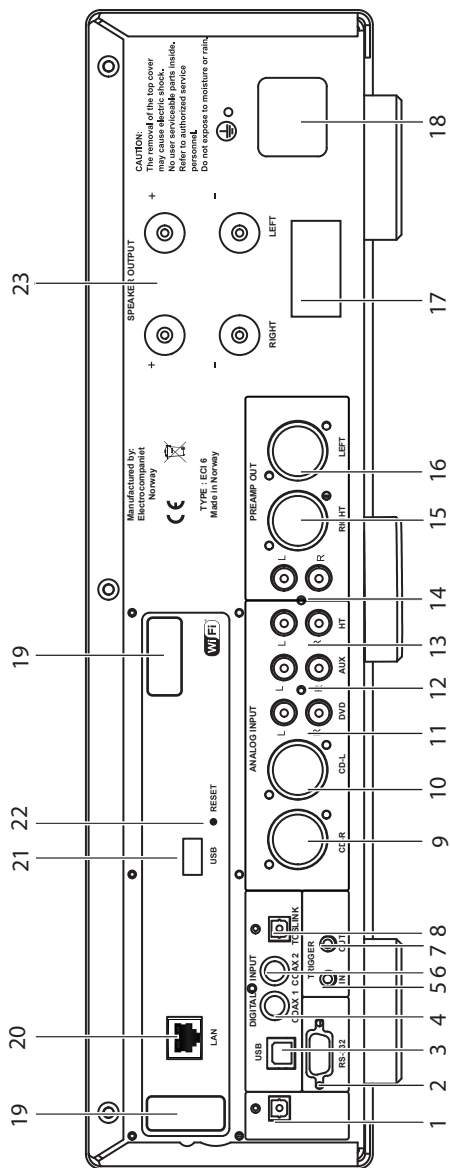*Specifications are subject to change without further notice.

ECI 6DX Front panel illustration

ECI 6DX Front panel illustration

- Volume Up
- Volume level indicator
- Infrared receiver
- Next input
- Volume down
- Previous input
- Power button
- Status indicators
- Graphical display

ELECTROCOMPANIET

Navigator
Balanced Integrated Amplifier
ECI 6DX High Performance
Navigator window

ECI 6DX Rear panel illustration

1. Optical digital input, TOSlink 1
2. RS 232 connection
3. USB audio input
4. Coaxial digital input 1
5. 12 V trigger input
6. Coaxial digital input 2
7. 12 V trigger output
8. Optical digital input 2, TOSlink 2
9. Balanced analog right CD input
10. Balanced analog left CD input
11. DVD analog inputs

12. AUX analog inputs
13. Home theater analog inputs
14. Pre-amplifier analog output
15. Pre-amplifier Balanced analog right output
16. Pre-amplifier Balanced analog left output
17. Serial number
18. AC Power Inlet
19. WLAN antenna
20. Ethernet connection
21. USB port
22. Reser button
23. Speaker outputs

Remote control
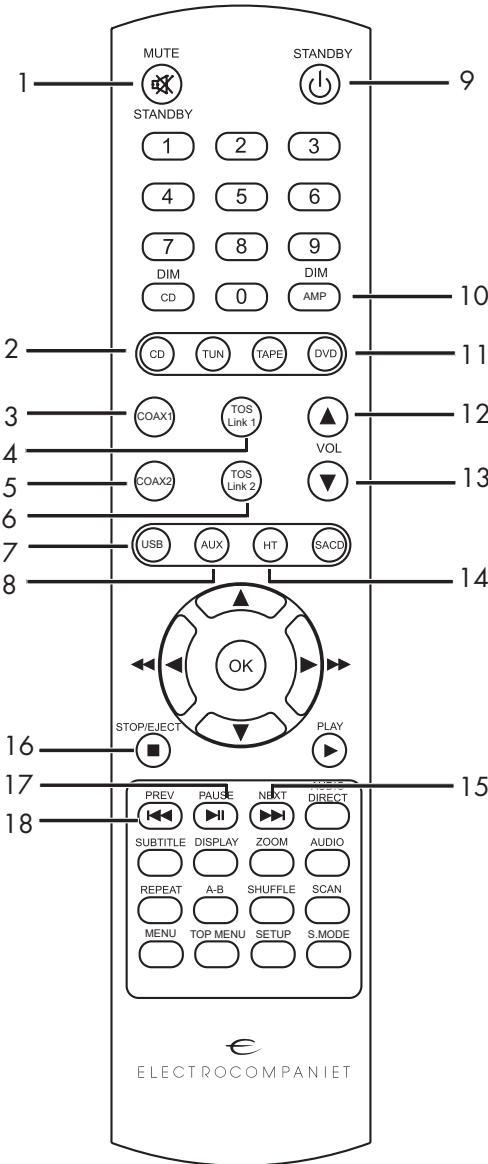
1. Mute - on/off.
Standby mode - hold mute1-2 sec. to set the ECI 6DX into a standby mode.
2. CD - switch to CD input
3. COAX1 - switch to COAX 1 input.
4. TosLink1 - switch to Toslink1 input.
5. COAX 2 - switch to COAX 2 input.
6. TosLink2 - switch to Toslink2 input.
7. USB - switch to USB input.
8. AUX - switch to AUX input.
9. Standby - not in use with the amplifiers. Work as Standby with a players.
10. Amp DIM - dimming the amplifiers display.
11. DVD - switch to DVD input.
12. Volume up - increase the volume.
13. Volume down - decrease the volume.
14. HT - switch to a Home theater input.
15. Next track
16. Stop
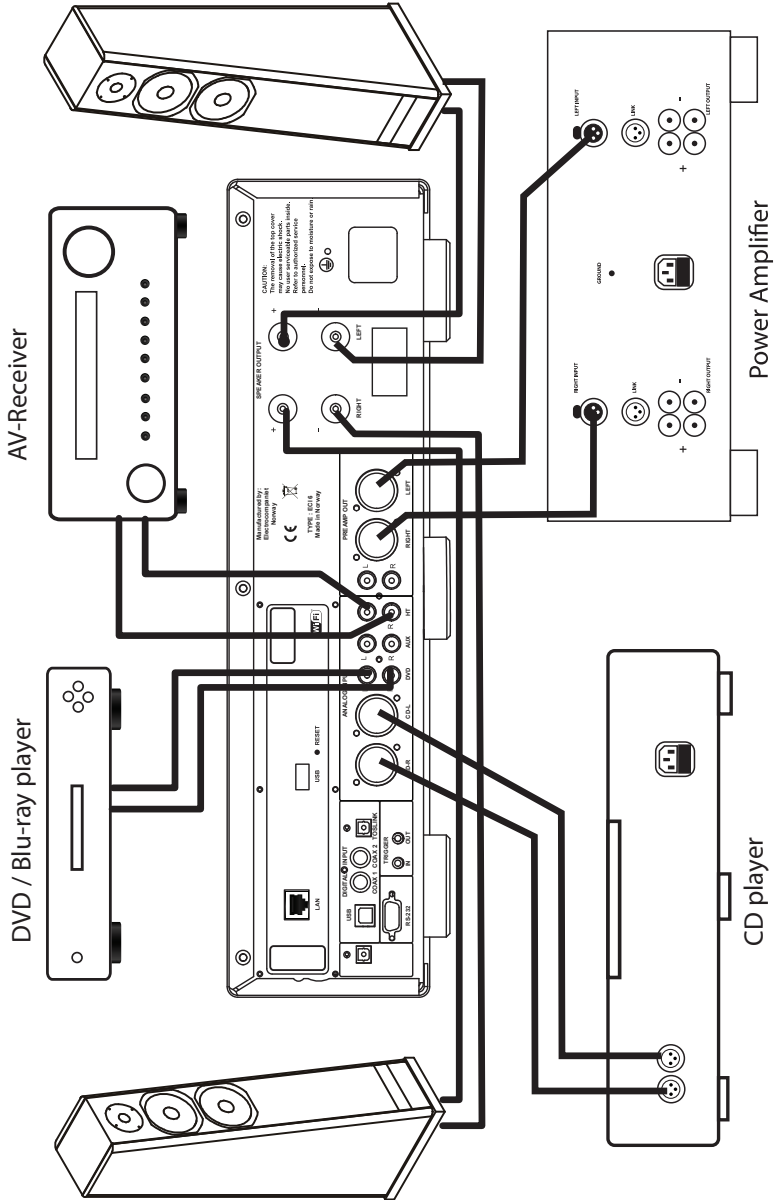17. Play/Pause
18. Previous track

Replacing batteries

Use 2pcs AAA or LR03 batteries. Observe correct polarization when inserting batteries.Please remove batteries when the remote is not used for a prolonged period of time.

Using the remote

When using the remote control, the front end of the remote control should be pointed to the front panel of your ECI 6DX. A free line of sight is required between the remote and the infrared sensor on the front panel.
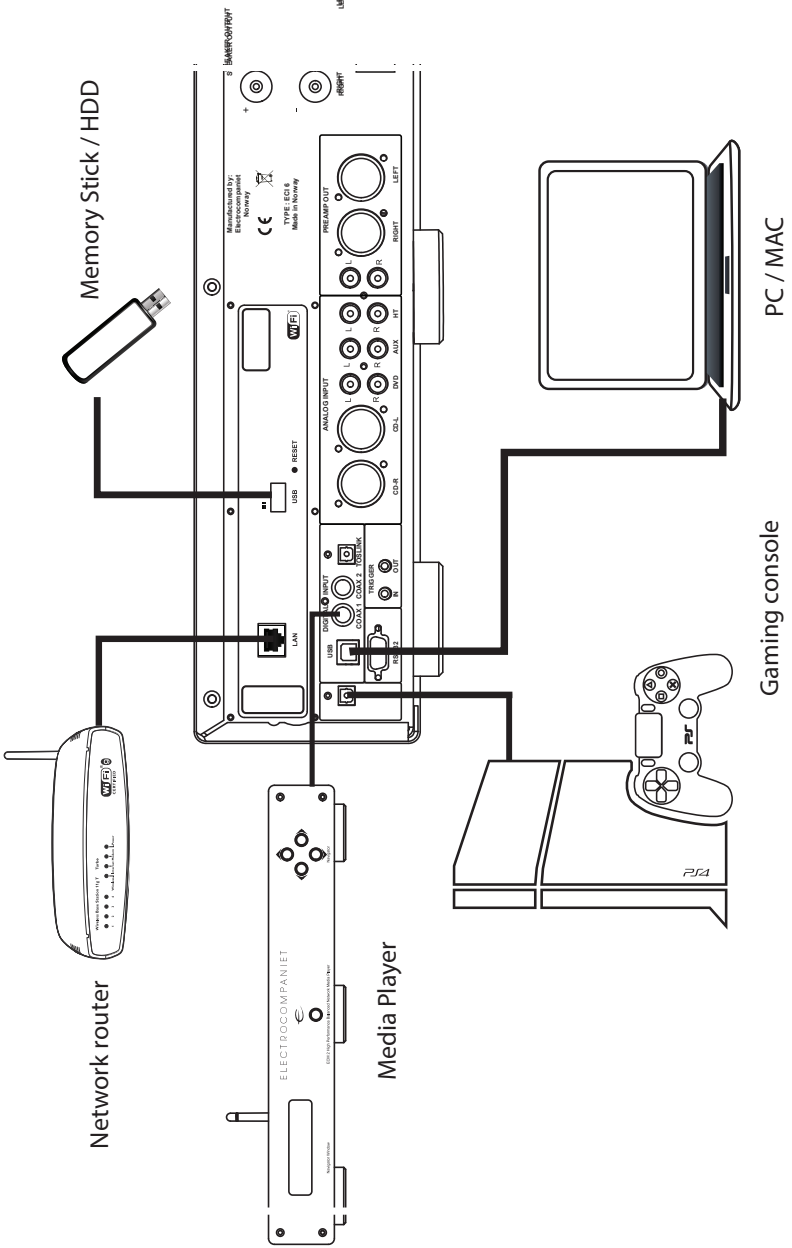
18

How to connect the system (Analog Inputs)

Power Amplifier

AV-Receiver

DVD / Blu-ray player

CD player

How to connect the system (Digital Inputs)

Memory Stick / HDD

PC / MAC

Gaming console

Network router

Media Player

ELECTROCOMPANIET

IR Remote control codes

RC5 codes are denoted as xx.yy where xx is 5 bit adress and yy is 6 bit command/data. All numbers are in decimal. RC6 codes are denoted as xxx.yyy. xxx is 8 bit adress. yyy is 8 bit command code. All numbers in decimal. All RC6 codes are mode 0.

Key label	Code Type	Code Hex	Comments
MUTE	RC5	10.0D	Same as on the integrated- and pre-amplifiers.
DIM AMP	RC5	10.0F	
NEXT	RC6	04.20	
PREV	RC6	04.21	
STOP	RC6	04.31	
PAUSE	RC6	04.30	
VOL UP	RC5	10.10	Same as on the integrated- and pre-amplifiers.
VOL DOWN	RC5	10.11	Same as on the integrated- and pre-amplifiers.
COAX1	RC5	10.12	
COAX2	RC5	10.13	
TOSLink1	RC5	10.0A	
TOSLink2	RC5	10.0B	
HT	RC5	10.3A	
AUX	RC5	10.3C	
DVD	RC5	10.39	
CD	RC5	10.14	
TUNER	RC5	10.15	
USB	RC5	10.1C	

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 ECI 6DX 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.

User Manual Updates Online

An updated version of the User Manual may be available online at the Electrocompaniet web site.
Occasional updates are needed to reflect new features added to the player since the User Manual was printed. As future firmware updates bring in new features and functions, the online version of the User Manual will be updated accordingly.

Copyright Protection

Reverse engineering or disassembly is prohibited. Part of the software is open-sourced under the GPL license. Please contact us for availability.

ELECTROCOMPANIET

If music really matters™

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 personal.
The warranty is void if the product is tampered with by non-authorised personnel.
Use only authorized Electrocompaniet service center.

Made in Norway
www.electrocompaniet.no