Owner's
Manual

SSP100
Surround Sound Processor

SSP80
Surround Sound Processor

HALCRO Logic

www.halcro.com

Contents

Introduction

Congratulations on purchasing the Halcro Logic SSP80 or SSP100 surround sound processor and preamplifier.

Born from a decade of high-performance two-channel Research and Development that produced the world's finest super-high-end amplification systems, comes home theater at the highest level.

Halcro Logic provides unprecedented levels of leading technology, resulting in reliability and Super-Definition performance.

Halcro Logic is used throughout the world by home theater connoisseurs with a genuine love and passion for home entertainment at its best.

Please enjoy the Halcro Logic audiovisual experience.

Important Safety Information

Symbols

The following symbols are used on this equipment:

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated 'hazardous voltage' that may be of sufficient magnitude to constitute a risk of electric shock to a person if exposed or contacted.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the following pages.

The 'CE' symbol indicates compliance of this device with the relevant directives of the European community including the EMC (Electromagnetic Compatibility) and LVD (Low Voltage Directive) standards.

Warning of electrical shock hazard. Do not open cover (or back). There are no user serviceable parts inside.
Refer servicing to qualified service personnel.

Electrical safety

WARNING: This product must always be connected to a mains socket outlet with a protective earth connection.

Only use a suitable approved mains cord complying with European individual country requirements in the CE Low Voltage Directive Scheme.

DANGER: Do not open the cover or back, or remove any panels, or try to modify or repair the SSP80/100. Opening the SSP80/100 may expose you to dangerous voltages and will void the warranty.

WARNING: The Standby/On button does not disconnect the unit from the mains power.

To disconnect the unit from the mains, switch off the unit at the mains socket outlet and withdraw the mains plug from the socket outlet.

The unit should be installed in a position where the mains plug is easily accessible. Disconnect the unit from the mains if it is to be left unused for a long period.

WARNING: No naked flame sources, such as lighted candles, should be placed on the unit.

If naked flame sources tip over they could result in a fire.

Protection from fluids

The Halcro Logic SSP80/100 processors are designed for indoor use only and are not protected against liquids. They must not be exposed to dripping or splashing and no objects filled with liquids, such as vases, should be placed on them.

If liquid is accidentally spilled on the device, immediately disconnect the unit from the mains. Allow sufficient time for complete evaporation before using the SSP80/100 again. If the liquid is anything other than water, do not use the device before a qualified service technician has examined it.

Cleaning may be performed with a slightly damp cloth that has been wrung until nearly dry. Refer to the section on *Cleaning* on page 83.

WARNING: To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.

Do not allow liquids to enter the unit or contact electrical terminals.

Service warnings

All compartments are sealed at the factory. If the seals are broken, the warranty will be void and all service costs will be charged to the owner.

DANGER: Contains no user serviceable parts. Do not attempt to open any of the SSP80/100 compartments as this may expose you to dangerous voltages and will void the warranty.

Battery disposal

When disposing of used batteries, please comply with government regulations or environmental instructions applicable in your area.

Protection from overheating

The SSP80/100 generates a certain amount of heat and requires ventilation. Slots and ventilation holes are provided for ventilation purposes, and to ensure reliable operation of the product. To prevent fire hazards, these openings must never be blocked or covered.

The SSP80/100 may be stacked on top of a Halcro Logic MC20/30/50/70 amplifier but overheating may result if ventilation is inadequate. Ensure there is at least 4 in (10 cm) above the uppermost unit for ventilation.

Follow the precautions listed below. If these precautions are not followed, overheating or failure may result. Overheating also shortens the working life of all components.

- do not block the ventilation holes in the top or bottom of the unit with any object, including paper, cloths or curtains
- do not place the unit on a soft surface such as a rug, or carpet with a thick pile, into which it could sink
- avoid placing the unit in a built-in installation place such as a bookcase or a rack unless you can provide proper ventilation
- do not operate the unit inside a cabinet unless it has adequate ventilation (such as an open back panel)
- allow at least 4 in (10 cm) on all sides of the unit (except the bottom)

WARNING: Do not obstruct ventilation slots in the chassis.

Additional important safety instructions for the US

The following instructions should be followed by customers in the USA in addition to the safety instructions in the rest of this chapter:

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth or according to the cleaning instructions.
- Do not block any ventilation openings.
- Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug.

  A polarized plug has two blades, with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Additional instructions continued:

- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel.

  Servicing is required when the apparatus has been damaged in any way, such as if the power-supply cord or plug is damaged, liquid has been spilled, or objects have fallen into the apparatus, if the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Interference warning — US FCC regulations

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the amplifier is connected.
- Consult the dealer or an experienced radio/TV technician for help.

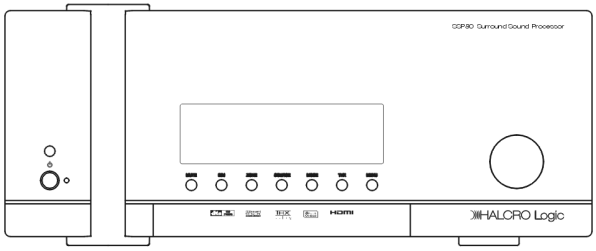
Changes or modifications not expressly approved by Halcro could void the user's authority to operate the equipment.

SSP80 Features

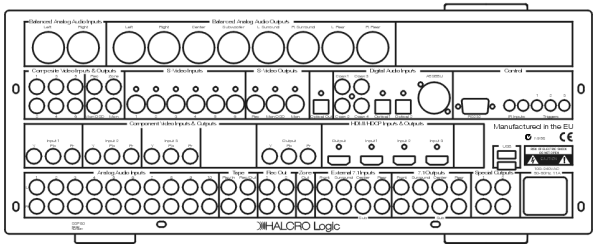
Features include:

- supports analog and digital HDTV
- up-conversion to component video and HDMI™ outputs
- three HDMI™ inputs (audio and video)
- three component video inputs
- one balanced stereo input
- one HDMI™ output
- one component video output
- one balanced and unbalanced 7.1 channel output
- RS2323 and USB interface for communication with PC
- three 12 V DC trigger outputs

Front View



Rear View

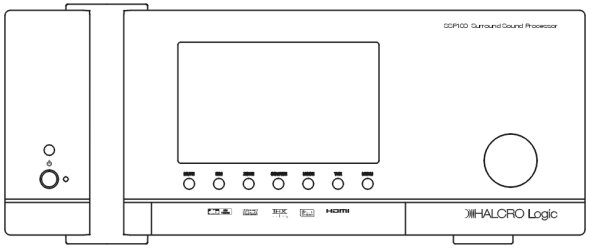


SSP100 Features

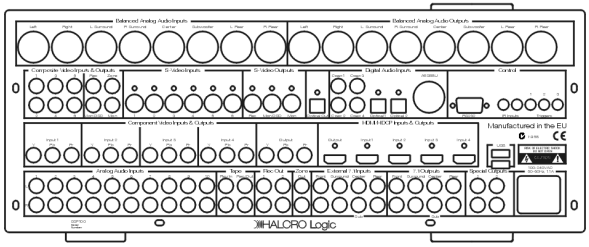
Features include:

- supports analog and digital HDTV
- up-scaling to 1080p
- de-interlacing (progressive scan)
- up-conversion to component video and HDMI™ outputs
- four HDMI™ inputs (audio and video)
- four component video inputs
- one HDMI™ output
- one component video output
- one balanced and unbalanced 7.1 channel output
- one balanced and unbalanced 7.1 channel input
- RS2323 and USB interface for communication with PC
- three 12 V DC trigger outputs

Front View



Rear View



THX Features

The SSP80 and SSP100 include a THX processing mode to enhance your audio experience of film soundtracks.

THX is an exclusive set of standards and technologies established by the world-renowned film production company, *Lucasfilm Ltd*. THX grew from a desire to make your experience of the film soundtrack, in both cinemas and in home theaters, as faithful as possible to the director's intention.

A film soundtrack is mixed in a special cinema called a dubbing stage, and is designed to be played back in large cinemas with similar equipment and conditions. The soundtrack is then transferred directly onto Laserdisc, VHS tape, DVD, and so on. It is not changed for playback in a small home theater, and because of this tonal and spatial errors can occur. THX engineers developed the patented THX technologies to accurately translate the sound from the cinema environment into the home, to correct these errors.

THX cinema processing features include:

- re-equalization
- timbre matching
- adaptive decorrelation
- THX Ultra2
- THX surround EX
- ASA (Advanced Speaker Array)

On this product, when the THX indicator is on, THX processing mode is automatically activated (see page 27).

Re-equalization

The tonal balance of a film soundtrack is excessively bright and harsh when played back over audio equipment in the home. Re-equalization restores the correct tonal balance for listening to the soundtrack in a small home theater.

Timbre matching

The human ear changes our perception of a sound depending on the direction the sound is coming from. In a cinema, there is an array of surround speakers so the surround information is all around you. The timbre matching feature filters the information going to the surround speakers so that they more closely match the tonal characteristics of sound coming from the front speakers in a cinema. This ensures seamless panning between the front and surround speakers.

Adaptive decorrelation

In a cinema, a large number of surround speakers helps create an enveloping surround sound experience, but in a home theater there are usually only two speakers. This can make the surround speakers sound like headphones that lack spaciousness and envelopment. The surround sounds also collapse into the closest speaker as you move away from the middle seating position.

Adaptive Decorrelation slightly changes one surround channel's time and phase relationship with respect to the other surround channel. This expands the listening position and creates — with only two speakers — the same spacious surround experience as in a cinema.

THX Ultra2

This equipment is THX Ultra2 certified, and as such it has incorporated all the features above and has also passed a rigorous series of quality and performance tests. Only in these conditions can a product feature the THX Ultra logo, which is your guarantee that the home theater products you purchase will give you superb performance for many years to come.

THX Ultra2 requirements cover every aspect of the product including pre-amplifier performance and operation, and hundreds of other parameters in both the digital and analog domain.

THX Surround EX

THX Surround EX — Dolby Digital Surround EX is a joint development of Dolby Laboratories and the THX Ltd. In a movie theater, film soundtracks that have been encoded with Dolby Digital Surround EX technology are able to reproduce an extra channel which has been added during the mixing of the program. This channel, called surround back, places sounds behind the listener in addition to the currently available front left, front center, front right, surround right, surround left and subwoofer channels.

This additional channel provides the opportunity for more detailed imaging behind the listener and brings more depth, spacious ambience and sound localization than ever before. Movies that were created using the Dolby Digital Surround EX technology, when released into the home consumer market may exhibit wording to that effect on the packaging. A list of movies created using this technology can be found on the Dolby web site at www.dolby.com.

Only receiver and controller products bearing the THX Surround EX logo, when in the THX Surround EX mode, faithfully reproduce this new technology in the home.

This product may also engage the "THX Surround EX?" mode during the playback of 5.1 channel. ©2004 THX Ltd. All Rights Reserved 163 material that is not Dolby Digital Surround EX encoded. In such case the information delivered to the surround back channel will be program dependent and may or may not be very pleasing depending on the particular soundtrack and the tastes of the individual listener.

ASA (Advanced Speaker Array)

ASA is a proprietary THX technology which processes the sound fed to two side and two back surround speakers to provide the optimal surround sound experience.

When you set up your home theater system using all eight speaker outputs (left, center, right, surround right, surround back right, surround back left, surround left and subwoofer) placing the two surround back speakers close together facing the front of the room, will provide the largest sweet spot. If for practical reasons you have to place the surround back speakers apart, you will need to go the THX Audio Set-up screen (see page 75) and choose the setting that most closely corresponds to the speaker spacing, which will re-optimize the surround sound-field.

ASA is used in three new modes; THX Ultra2 Cinema, THX MusicMode and THX Games Mode.

Installation

Ensure you have read the *Important Safety Information* on page 5 before installing your Halcro Logic SSP80/100.

If you require assistance in the unpacking and installation of your Halcro SSP80/100, please contact your dealer.

Unpacking

Unpack the unit carefully, noting that all components are present and undamaged.

Your carton should contain the following items:

- SSP80 or SSP100, as ordered
- mains supply cable (USA and EU)
- three feet (for stacking)
- calibration microphone
- Universal Touch Screen Remote (UTSR1) with 120 V charger
- docking station
- 230 V charger (EU)
- Owner's Manual
- Warranty Card

Storing packaging

The packaging is custom-designed to prevent damage from occurring during transport. Store the packaging in a dry location.

Positioning

We suggest the Halcro Logic SSP80/100 be positioned on a stable, flat surface. The airflow to the vents should not be interrupted. Ensure there is at least four inches (ten centimeters) clearance around the vents.

Do not install in a location exposed to direct sunlight or strong artificial light.

Do not install in a location exposed to high humidity, or where ventilation is poor.

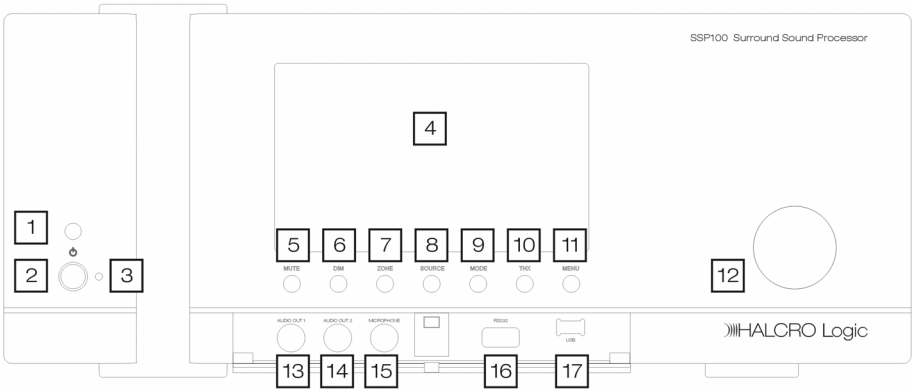
Ensure the mains plug remains easily accessible.

Do not connect to mains power until all the connections are made and checked.

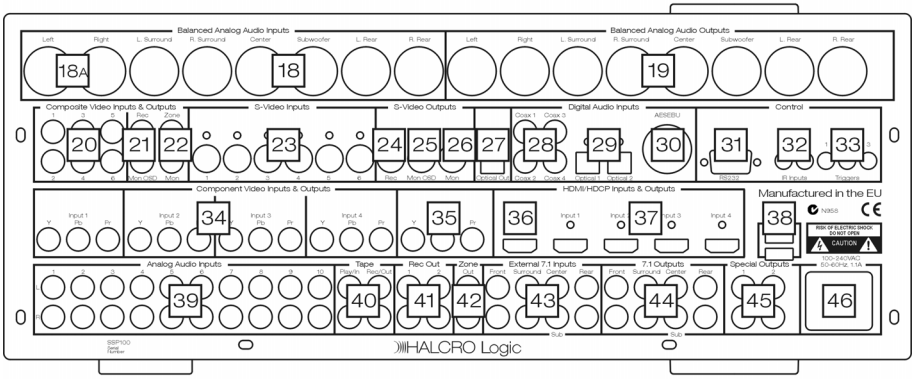
Controls and Connections

This chapter describes the controls and connections on the front and rear panels of the SSP80/100. The numbers on the diagram below are used throughout the manual to reference the SSP80/100 controls and connections and to assist you in the setup procedure.

Front Panel Controls



Rear Panel Connections



Front panel

1 *IR receiver*
The infrared sensor for the SSP80/100 Universal Touch Screen Remote (UTSR1) control unit.

2 *Standby/On button*
Switches the SSP80/100 on and into STANDBY mode (see page 43).

3 *Standby LED*
LED indicating the system is in STANDBY mode.

4 *Display*
High quality display showing SSP80/100 operating condition such as selected input, operating mode and volume. The SSP100 display is a high quality 7" (18 cm) digital TFT screen. The SSP80 display is a high quality blue VFD screen.

5 *Mute button*
Mutes the SSP80/100 audio output.

6 *DIM button*
SSP100 — Pressing the DIM button switches the TFT screen brightness from bright to dim. Pressing the DIM button again increases the brightness of the TFT screen.

SSP80 — Pressing the DIM button switches the VFD screen brightness from bright to dim. Pressing the DIM button again increases the brightness of the VFD screen.

7 *Zone button*
Activates Zone B control mode to allow access to the second Zone. (Active in STANDBY mode but not in SETUP mode.)

8 *Source button*
Selects the Source control option. Once pressed, turning the volume control cycles through the available inputs

9 *Mode button*
Selects the Mode control option. Once pressed, turning the volume control cycles through the available processing modes. (See page 27 and the mode tables on page 92.)

10 *THX button*
Selects THX processing mode. (Available modes depend on the input signal type and speaker configuration.) See page 27.

11 *Menu*
Selects SETUP mode. The menu is displayed on the On Screen Display (OSD). Repeated pressing of the MENU button allows you to navigate down through the selected menu page. (A menu function is selected by rotating the volume control.) (See page 47.)

12 *Volume control*
Controls the volume of the audio output and can also be used to manually select menu options, audio/video sources and mode control.

13 *Headphone audio output 1*
Stereo output with volume control for the selected source input.

14 *Headphone audio output 2*
Stereo output with volume control for the selected source input.

15 *Microphone input socket*
Used for auto-calibration of speaker level and distance. See page 55.

16 *RS232 control interface*
Used for connecting the SSP80/100 to a computer or home automation system

17 *USB control interface*
Used for connecting the SSP80/100 to a computer or home automation system.

Rear panel

18 7.1 balanced audio input (SSP100)
Accepts balanced multi-channel and stereo inputs from analog audio sources (SACD or DVD audio player).

18a Stereo balanced audio input (SSP80)
Accepts inputs from balanced audio outputs of an analog audio source.

19 *7.1 balanced audio outputs*
Connect to the balanced LINE inputs of power audio amplifiers. These outputs feed the same signal as the 7.1 channel outputs, except that bypassed balanced audio input can only be heard from these outputs.

20 *Composite video inputs 1 to 6*
Accept composite video outputs from video sources. These inputs 1-6 are linked to analog audio inputs 1-6.

The received composite video signal is fed out from the composite video record (REC), monitor (MON) output, Monitor with On Screen Display information (Mon OSD) and Zone output.

21 *Composite video record (REC) and monitor (MON) (with OSD) outputs*
Connect the composite REC output to the composite video input of your recording device such as a VCR.

(Connect the Mon OSD to a display device with a composite input (TV). The video signal with the On Screen Display will be shown.

You can also use the composite video Mon OSD output even if no composite video source is connected. The selected S-Video signal is down-mixed to this output and you can use it for monitoring.)

22 Composite video Zone and monitor (without OSD) outputs
The Zone output can be used, for example, to send a signal to a TV located in another room. The monitor output (Mon) is a high quality composite video output. The On Screen Display (OSD) is not displayed on the Mon output.

23 S-Video inputs 1 to 6
Accept S-Video outputs from video sources. These inputs 1-6 are linked to analog audio inputs 1-6.

24 S-Video REC output
Connects to the S-video input of a VCR.

25 S-Video monitor output (with OSD)
S-video monitor output, but the OSD is displayed.

26 S-Video monitor output (without OSD)
Connects to a display with an S-video input.

27 Optical digital output
Connects to the optical input of your digital recorder, such as a DAT or a MiniDisc recorder. The selected digital source is fed to this output in optical digital format.

28 Coaxial digital audio inputs 1 to 4
Accept the coaxial digital output from your source devices. You can freely associate the digital inputs to any source.

29 Optical digital audio inputs 1 to 2
These connections require optical cables (Toslink). You can freely associate the optical inputs to any source (see *Source Setup* on page 63).

30 AES/EBU balanced digital audio input
This connection requires an XLR cable and a digital audio source with AES/EBU connector. You can freely associate the digital inputs to any source.

31 RS232 control interface
Connects the SSP80/100 to a home automation system or to a PC for software updates. Contact your dealer for details.

32 IR inputs
Used for an additional Infrared remote controller for Zone B and main viewing area. Contact your dealer for details.

33 Remote trigger outputs 1 to 3
Connect the DC trigger inputs of any audio or other device to the trigger outputs.

(The trigger output may be activated when the SSP80/100 is switched out of STANDBY mode, and immediately turned off again when the SSP80/100 is switched into STANDBY mode again. You can also program the trigger outputs to be activated under other conditions (see *Trigger Setup* on page 79 for further details).)

The trigger outputs deliver 12 V DC. The maximum total current (for the three outputs) is 200 mA.

Only connect or disconnect triggers when the power is off or the unit is disconnected from mains power, or the trigger outputs may be damaged.

CAUTION: Halcro recommends that trigger cables be a maximum length of three meters and to use shielded cable to prevent possible radio interference issues.

34 Component video inputs
Accept component video outputs from video sources.

There are three component video inputs in the SSP80 and four in the SSP100. All component video inputs can be associated to any of the sources in SRC1 to 10 in the *Source Setup*.

35 Component video outputs
Connect to the component video inputs of the video display.

36 HDMI™ outputs
Connect to the HDMI™ input of your video display unit.

(For display systems with DVI inputs a HDMI™/DVI adaptor is required.)

37 HDMI™ inputs
There are three high-definition multimedia interface (HDMI™) inputs in the SSP80 and four in the SSP100.

All HDMI™ inputs can be associated to any of the sources in the *Source Setup*.

38 USB control interface
Connects the SSP80/100 to a home automation system or to a PC for software updates.

Contact your dealer for details.

39 Analog audio inputs 1 to 10
Inputs for analog outputs of source devices.

(Connections must always be made to these inputs even when using only digital sources [such as DVD players] to ensure there is always a signal at the record outputs.)

40 Tape input/output
Connectors for all types of tape recorders, including three-head types, which allow you to monitor the signal from the tape at the same time it is being recorded.

41 Record outputs 1 to 2
These outputs carry the signal from the currently selected analog stereo source device (except the source connected to the tape PLAY input or the 7.1 channel input).

42 Zone B audio output
A stereo output used to send the Zone signal from the SSP80/100 to a power amplifier in another room.

43 7.1 channel unbalanced inputs
Accept audio outputs from any multi-channel analog source (such as DVD, SACD, and DVD audio player).

May be used with stereo, mono, 5.1 channel or 7.1 channel sources.

44 7.1 channel unbalanced outputs
Connect to the LINE inputs of audio power amplifiers.

The SUB output is normally fed to the low-level LINE input of an active subwoofer, or may feed a passive subwoofer and a separate power amplifier.

45 Auxiliary channel outputs
Connect to the LINE inputs of power amplifiers and subwoofers.

Special Output 1 is Aux channel 9 (top) and Aux Channel 10 (bottom). Special Output 2 includes two additional subwoofer line outputs.

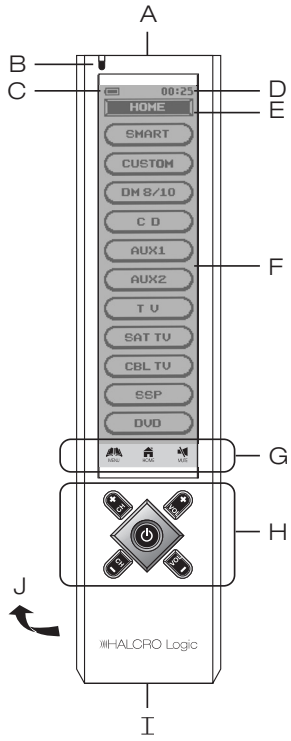
46 Power inlet and main switch

UTSR1 (Remote Control)

The Universal Touch Screen Remote (UTSR1) supplied with the SSP80/100 is used to control the SSP80/100. It is used during installation and setup procedures, and for controlling normal operations.

It will need to be charged overnight before operation.

Please refer to the Universal Touch Screen Remote (UTSR1) Docking Station Owner's Manual for full instructions on using the remote control.



A. Infra-red lens
B. Green LED indicator
C. Battery level meter
D. Current time
E. Current mode
F. Touch Screen panel
G. Short cut keys (Menu, Home, Mute)
H. Hard keys (Standby/On, Channel ±, Volume ±)
I. Connection jack
J. Battery compartment

Short cut keys (G)

- *Menu* — activates the UTSR1 menu for customization of settings (refer to UTSR1 owner's manual for details)
- *Home* — returns to UTSR1 'home' page or top layer for device selection
- *Mute* — audio muted

  Pressing the key again, or increasing the volume, disengages the mute mode.

Hard keys (H)

- *Standby/On* — activates the system selected on the UTSR1 home page

  If the SSP80/100 is selected, the key will perform the same function as the Standby/On button on the front panel (2).
- *Channel ±* — the Ch + and - keys scroll through the input sources
- *Volume ±* — the Vol + key increases the volume, and the Vol - key decreases the volume, in the same way the volume control (12) operates on the front panel

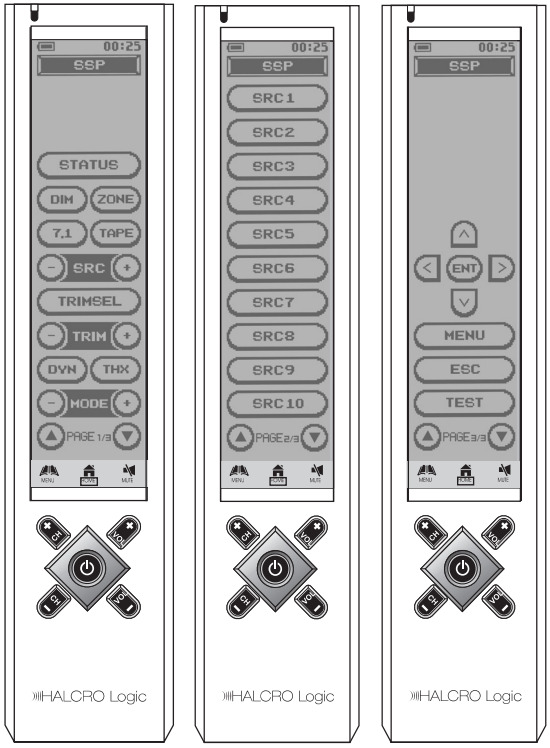
Accessing the SSP80/100 menus

To access the SSP80/100 menus and make changes using the UTSR1:

- Activate the UTSR1 and view the Home page (see page 23) by touching the "Touch Screen Panel" (F).
- Touch the SSP key on the UTSR1 Home page to view the SSP page 1 (the leftmost screen shown to the right).
- Press the down arrow key (to the right of the page number) to scroll through the SSP pages until you reach page 3 (shown on the far right).
- Access the SSP80/100 *Main Menu* by touching the MENU key.

  The SSP80/100 *Main Menu* (setup) is displayed. (The *Main Menu* and setup menus are shown on page 47, and described in the sections following page 47.)

When you select the SSP80/100 *Main Menu*, the processor enters SETUP mode.



(Refer to the next sections for descriptions of these SSP pages.)

SSP page 1

Status

Press the STATUS key to display the status or settings of the SSP80/100 on the On Screen Display (OSD). The status display shows selected source, audio and video signal types, processing mode and volume information. The status display disappears after ten seconds or when you select the same key again.

Dim

SSP100 — Press the DIM key to switch the TFT screen brightness from bright to dim. Press the key again to increase the brightness of the TFT screen.

SSP80 — Press the DIM key to switch the VFD screen brightness from bright to dim. Press the key again to increase the brightness of the VFD screen.

Zone

Press the ZONE key to activate the second zone or 'Zone B'. This mode can be accessed in STANDBY mode, but not during SETUP mode. Zone functions are controlled by pressing the ZONE key and following with the function commands as required. If no commands are received within five seconds, the zone key will need to be pressed again.

If 'Zone B' control mode is activated during normal operating mode, the OSD will show 'Zone B Off'. Press the Standby button to turn Zone B on. The OSD shows the current Zone B source and volume setting.

Make adjustments as follows:

- *source* — select any of the direct selection source keys (page 2 of SSP menu) or select SRC +/- keys
- *volume* — select VOL+/- keys to increase or decrease volume
- *mute* — mutes audio for Zone B
- *Zone B* — turn off by pressing the 'Zone' key followed by the Standby button

Zone B is independent of the main zone, except during SETUP mode. When the main zone is turned off, Zone B is still active. Commands for Zone B must be preceded by pressing the Zone key. In SETUP mode the processor does not respond to Zone commands.

7.1

The 7.1 key allows you to select the External 7.1 CHANNEL INPUT (43). The 7.1 CHANNEL INPUT is a straight-through connection with volume controller. The switch is a toggle type and pressing it again switches off the EXT 7.1 input.

Tape

The TAPE key activates the output signal from a recorder connected to the 'Tape Play' connection (40) on the rear panel. Press once to activate and press again to deactivate. The TAPE key does not affect the operating mode of the SSP80/100.

The selected signal source will be fed to the 'Tape Rec' output sockets (40). If you have a three-head tape recorder that permits off-tape monitoring you can use the TAPE key to compare the source signal to the off-tape signal and check the level and the quality of the recording while the recording takes place.

Note: If you engage the 'TAPE key with no signal source connected to the 'Tape Play', or with no tape running, you will not hear any audio.

Src +/-

The SRC +/- keys are used to scroll through and select a Source (audio or audio-video) from the available options. The selected source is also fed to the 'Tape Rec' (40) and 'Rec' (41) outputs for recording. The display shows the input you have selected. (This is effectively the same as the Ch+/- hard keys.)

When a different input is selected, the SSP80/100 automatically switches to the last used operating mode of that input, or to the correct digital decoding if an active digital source is assigned to the input.

Trimsel and trim +/-

The TRIM keys are used to temporarily adjust the levels from the audio system without accessing the Setup menu. The adjustments are not saved and the values shown on the *Setup* menu remain unchanged.

Note: Trim level adjustments are not permanent.

Repeated pressing of the TRIMSEL key toggles through the following level adjustment options:

- subwoofer level
- surround level
- center level
- bass level
- treble level

Adjustments can be made using the TRIM +/- keys.

Dyn

This key activates the Dolby Late Night function that compresses a Dolby Digital soundtrack so that all details are audible at low listening levels and loud sounds are reduced in volume.

Note: This function works only with Dolby Digital sources.

THX

The THX key activates the THX processing mode selected in the *Setup Menu* (see page 11 for information on these features). Press the THX key to scroll through the available modes that include:

- THX
- THX Surround-EX
- THX Ultra2 Cinema
- THX MusicMode
- THX Games Mode

Note: Available modes depend on the input signal type and speaker configuration.

Mode

Select the MODE +/- keys to cycle through the available processing modes (dependent on the audio signal). The MODE tables (on page 92) show all available modes for different signal types (subject to change) and indicate which speakers are active.

The subwoofer is not included in the table as it is always active when selected in *Speaker Setup* and if any active speakers are set to 'small'. Refer to the mode tables on page 92.

SSP Page 2

Source

Page 2 of the SSP menu is used for quick access to the different sources. To change the selected source, simply select the appropriate key.

Note: Use the UTSR1 menu editing features to rename the SRC1 to SRC10 keys to have the same designations given in the SSP80/100 Source Setup, Titles fields.

SSP Page 3

Up (∧), Down (∨)

During normal use, the UP (∧), DOWN (∨) keys are used to adjust the volume setting. When the SETUP mode or SSP menu is active, these keys are used to navigate the menu, scrolling up and down respectively.

Left (<), Right (>)

During normal use, the LEFT (<), RIGHT (>) keys are used to change the selected source. When the SETUP mode or SSP menu is active, these keys are used to make adjustments to menu settings.

Enter (ENT)

During normal use, the ENT key is used to perform the *Input Search* function, to search for active input sources (in normal operating mode).

When the SETUP mode or SSP menu is active, this key is used to enter menu selections.

Menu

The menu key accesses the SETUP mode of the SSP80/100. Use the UP (∧), DOWN (∨), LEFT (<), RIGHT (>) keys to navigate the menu and enter (ENT) to select.

To exit the 'Menu' setup without saving changes, select escape (ESC).

Escape (ESC)

When the SETUP mode is active, the ESC key is used to exit the setup menus without saving changes. The ESC key can also be used to cancel special operations, such as auto calibration or input level monitoring.

Test

The TEST key activates a test signal (for noise mode calibration in *Level Setup*).

Quick Start Guide

The Halcro Logic SSP80/100 is a sophisticated product designed to be compatible with the world's leading analog and digital audio/video components.

Due to the advanced nature of the SSP80/100, there are many different user configurations available and these can become overwhelming if you are unfamiliar with electronic component setup. Please contact your dealer for installation and setup guidance if you are unsure how to proceed.

Before you begin the initial setup, make sure all components are switched off and unplugged at the mains.

This chapter provides a basic overview of the connection requirements as well as basic setup procedures. For more detailed setup information, refer to the various setup chapters in this manual.

Below are some basic notes to help you during the installation and set up procedure:

- read the *Important Safety Information* on page 5
- we recommend use of the UTSR1 Remote Control for menu setup
- charge your UTSR1 overnight ready for use
- numbers shown in brackets throughout this manual refer to the numbered controls and connections shown on page 17
- flow charts showing basic setup procedures start on page 30
- use default source settings (page 32) where possible
- use the connection diagrams (pages 35 to 40) to plug in connections for TV monitor/ projector, amplifier and source components
- the front panel menu does not have an exit without save function

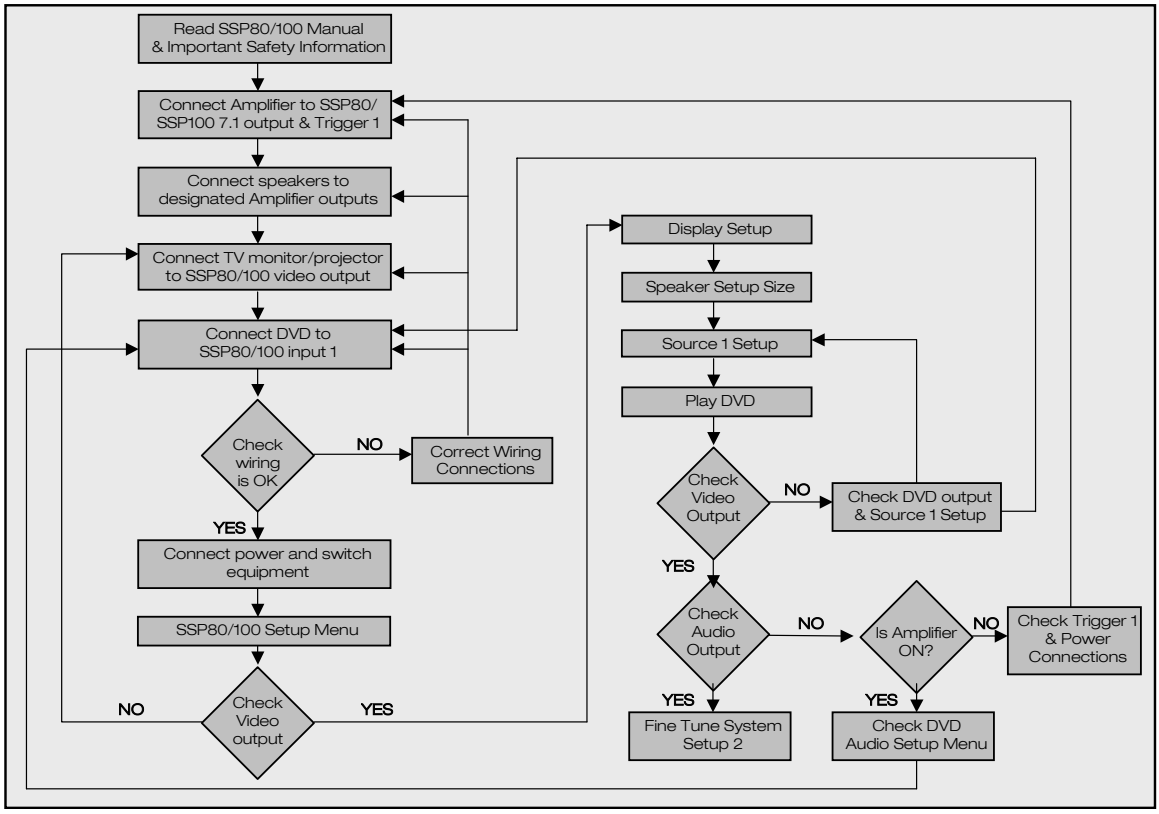
  If you are unsure, use the UTSR1 to access the menu and press ESC to exit without saving changes. To save changes select EXIT from each level until the menu has been exited.

Set up flow charts

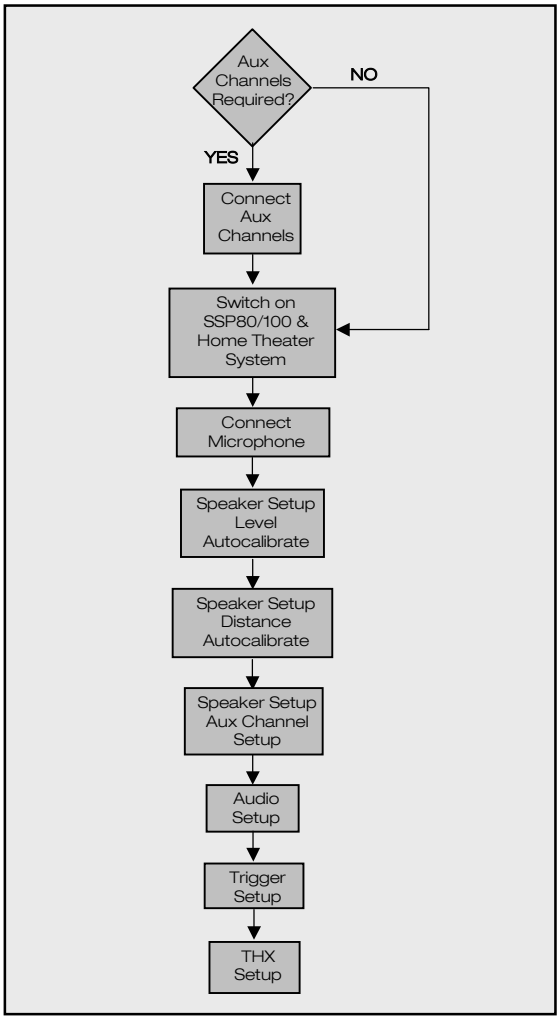
The charts below outline the steps to be followed to complete the basic setup and installation of the SSP80/100. Refer to the connection diagrams on pages 35 to 40 for connection setup and correct wiring.

Note: For detailed information on setup, refer to the relevant chapter in this manual.

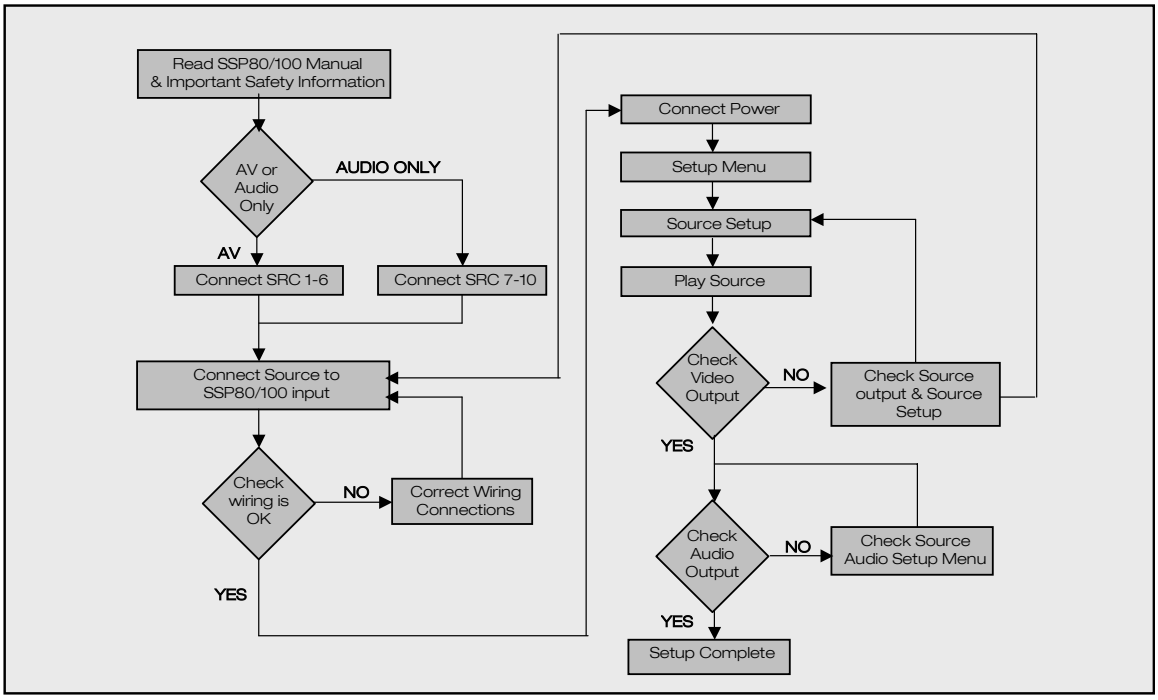
Quick start flow chart



Fine tuning flow chart



Source setup flow chart



Factory default settings

The SSP80/100 has been programmed at the factory with default settings to simplify the initial setup procedure. If possible, connect your source components to match the below settings.

Source 1 (DVD player with HDMI)
- HDMI — input 1 (37)
- S-Video — input 1 (23)
- Composite Video — input 1 (20)
- Analog Audio — input 1 (39)

Source 2 (Set-top box with HDMI)
- HDMI — input 2 (37)
- S-Video — input 2 (23)
- Composite Video — Input 2 (20)
- Analog Audio — input 2 (39)

Source 3 (Media Server with HDMI)
- HDMI — input 3 (37)
- S-Video — input 3 (23)
- Composite Video — input 3 (20)
- Analog Audio — 'Setup' menu input 3 (39)

Source 4 (DVD player with component video)
- Component Video — input 1 (34)
- S-Video — input 4 (23)
- Composite Video — input 4 (20)
- Analog Audio — input 4 (39)
- Digital Audio Coaxial — coax 1 (28)

Source 5 (VCR)
- Component Video — input 2 (34)
- S-Video — input 5 (23)
- Composite Video — input 5 (20)
- Analog Audio — input 5 (39)
- Digital Audio Coaxial — coax 2 (28)

Source 6 (Cable TV with component video)
- Component Video — input 3 (34)
- S-Video — input 6 (23)
- Composite Video — input 6 (20)
- Analog Audio — input 6 (39)
- Digital Audio Optical — optical 1 (29)

Source 7 (CD or SACD with balanced audio)
- Analog Audio — input 7 (39)
- Balanced Analog Audio (18)

Source 8 (CD player with digital)
- Analog Audio — input 8 (39)
- Digital Audio Coaxial — coax 3 (28)

Source 9 (Tuner)
- Analog Audio — input 9 (39)
- Digital Audio Coaxial — coax 4 (28)

Source 10 (Music Server)
- Analog Audio — input 10 (39)
- Digital Audio Optical — optical 2 (28)

Note: Default settings can be changed in the Source setup menu. For details refer to Source Setup chapter on page 63.

Audio / Video options

Depending on the components you are connecting, you will need to select which of the following connections need to be used.

Video and audio

- *HDMI (37)* – highest quality audio & video

Video (listed in order of video quality output)

- *component video (34)*
- *S-video (23)*
- *composite video (20)*

Audio inputs

- *balanced (18)* — most desirable for CD, SACD or DVDA analog balanced audio outputs. Balanced audio will minimize earth loop generated mains hum and ripple or high frequency interference
- *unbalanced (43)* — suitable for sources with multi channel analog audio output (SACD, DVDA)
- *digital audio* inputs — should be used where possible for multi-channel audio outputs:
  — coaxial (28)
  — optical (29)
  — AES/EBU (30)
- *analog* (39)

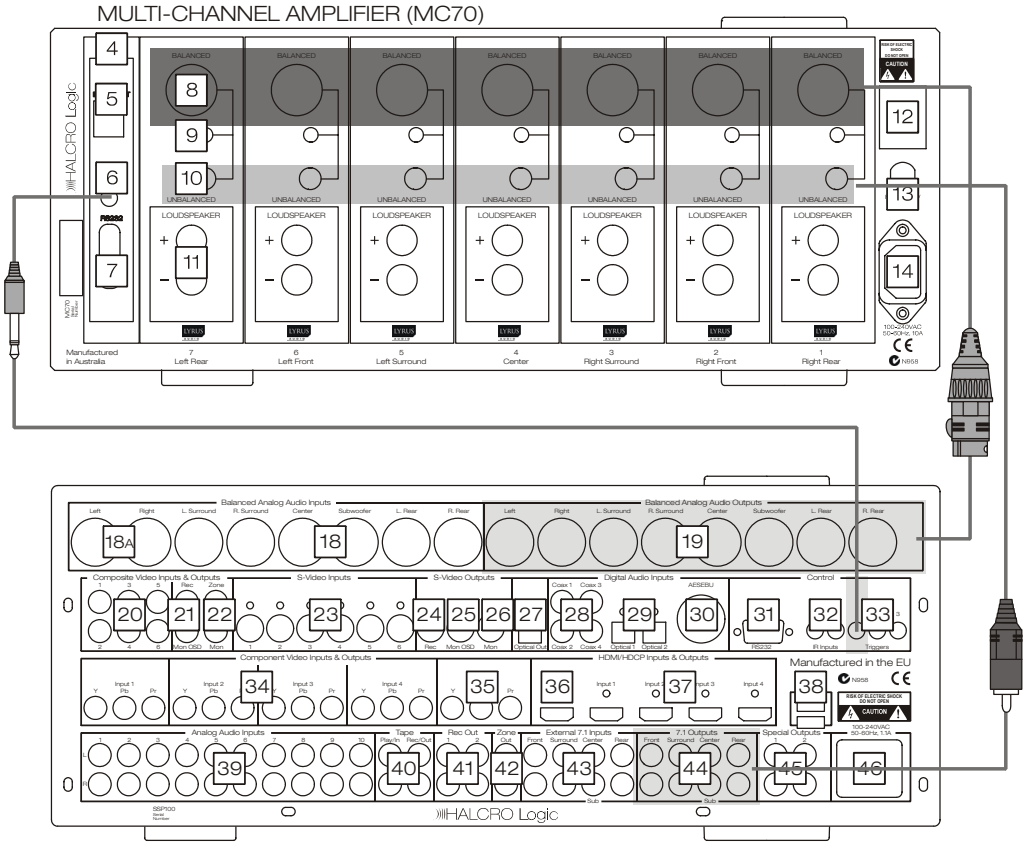
Audio outputs

- *balanced (19)* — most desirable for minimizing earth loop generated mains hum and ripple or high frequency interference
- *unbalanced (44)* — suitable for most installations

Connecting an amplifier(s)

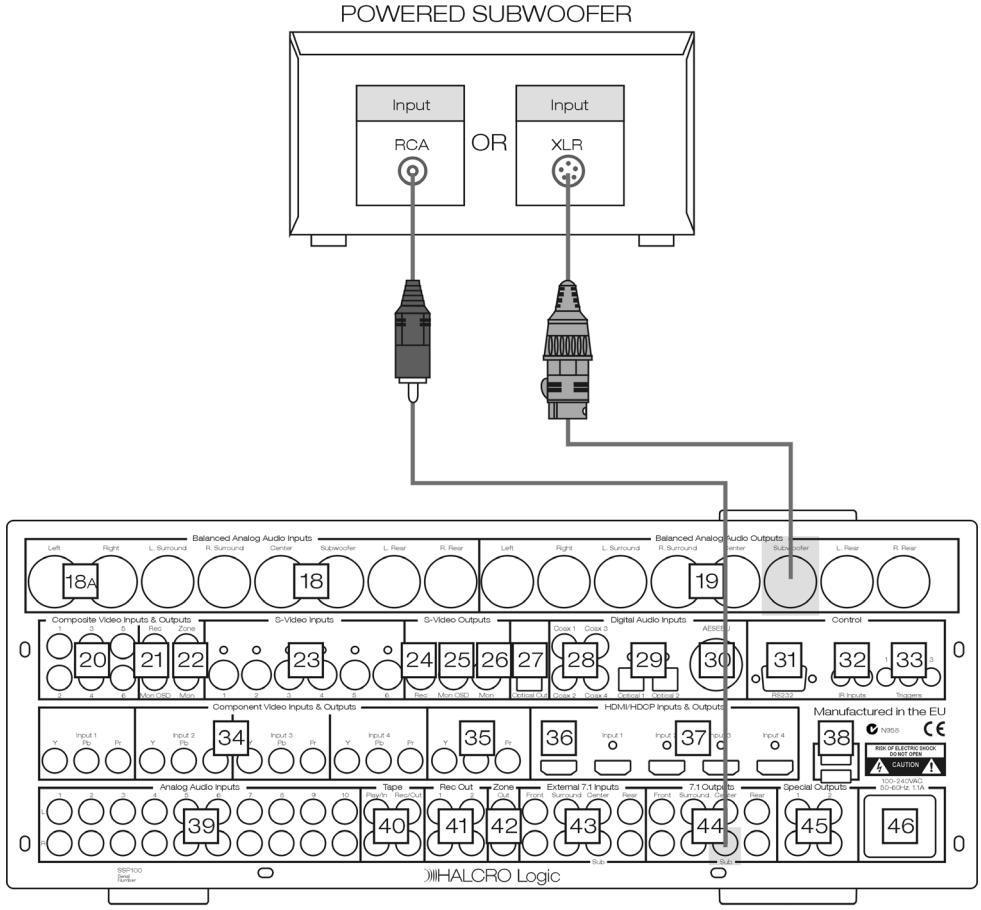
From the SSP80/100, connect either the balanced or unbalanced Front Left, Front Right, Center, Surround Left, Surround Right, Rear Left and Rear Right analog audio outputs (19 or 44) to the corresponding Front Left, Front Right, Center, Surround Left, Surround Right, Rear Left and Rear Right inputs of the power amplifier(s). To connect the speakers, refer to the amplifier manufacturer's owner's manual.

If you only have one rear speaker, connect it to the LEFT Rear output (19 or 44).



Connecting a subwoofer

From the SSP80/100, connect the analog audio output (either Sub19 or Sub44) to the corresponding subwoofer input.

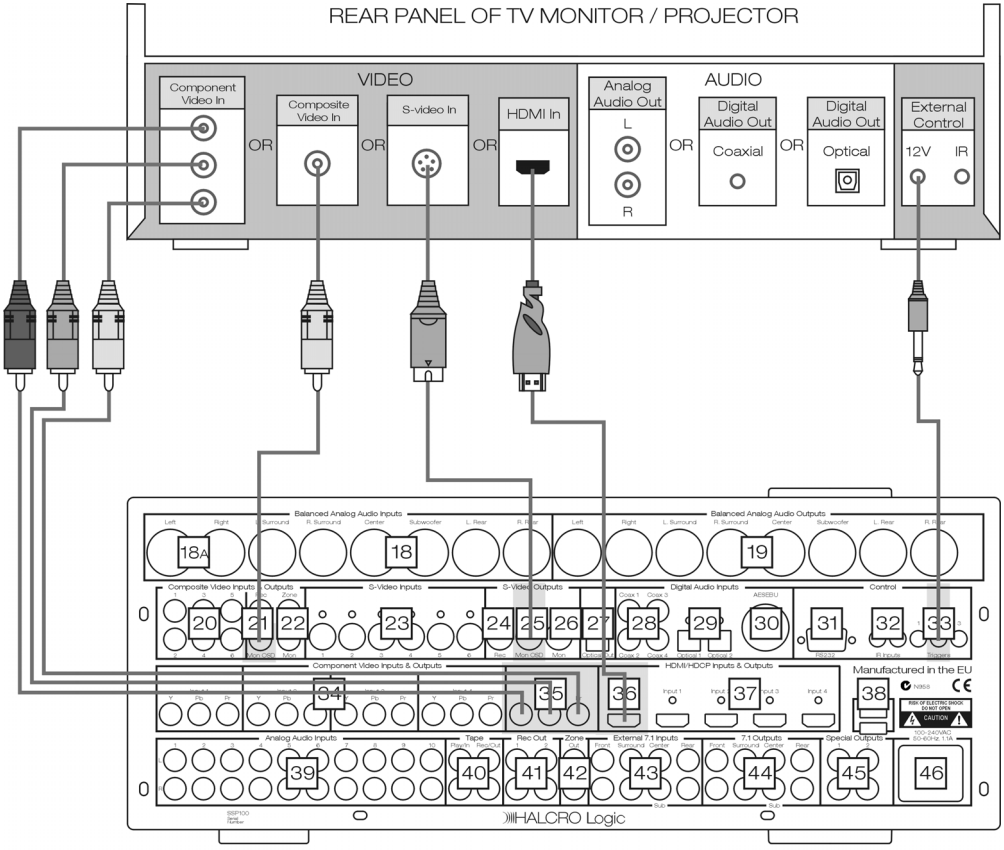


Connecting a TV monitor

The TV monitor/projector requires video connections only as the audio will be driven by the processor/amplifier.

From the SSP80/100, connect one or more of the following: HDMI or S-video or component video or composite video output (36/25/35/21) to the corresponding HDMI/ S-video / component video / composite video input of the TV monitor/projector.

Note: If your TV monitor/projector is a component type, you cannot down-convert from an HDMI source input.

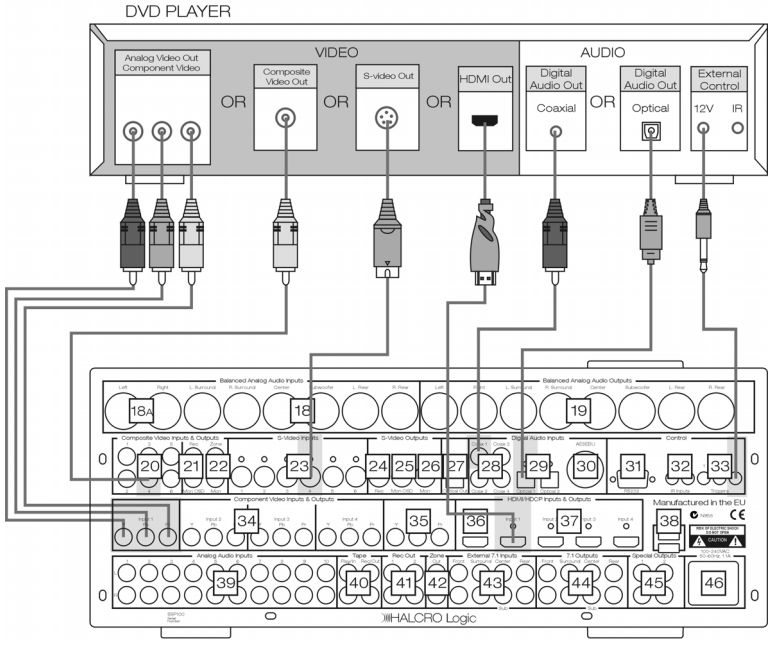


Connecting a DVD player

The DVD player requires both audio and video connections, except if your DVD player has an HDMI output (HDMI combines audio and video in one cable).

- *video* — from the DVD player, connect one or more of the following: HDMI or S-video or component video or composite video output to the corresponding HDMI/ S-video/component video/composite video input on the SSP80/100 (37/23/34/20)
- *audio* — from the DVD player, connect either the coaxial or optical digital audio output to the digital audio input on the SSP80/100 (28/29)
- *analog audio output* — connect if the zone or REC outputs are to be used

Note: the type of TV monitor/projector connected to the SSP80/100, dictates your source connection options. For example, if your TV monitor / projector uses component video input your source must use component video S-Video or Composite Video output (see Source setup, Video type, page 67).

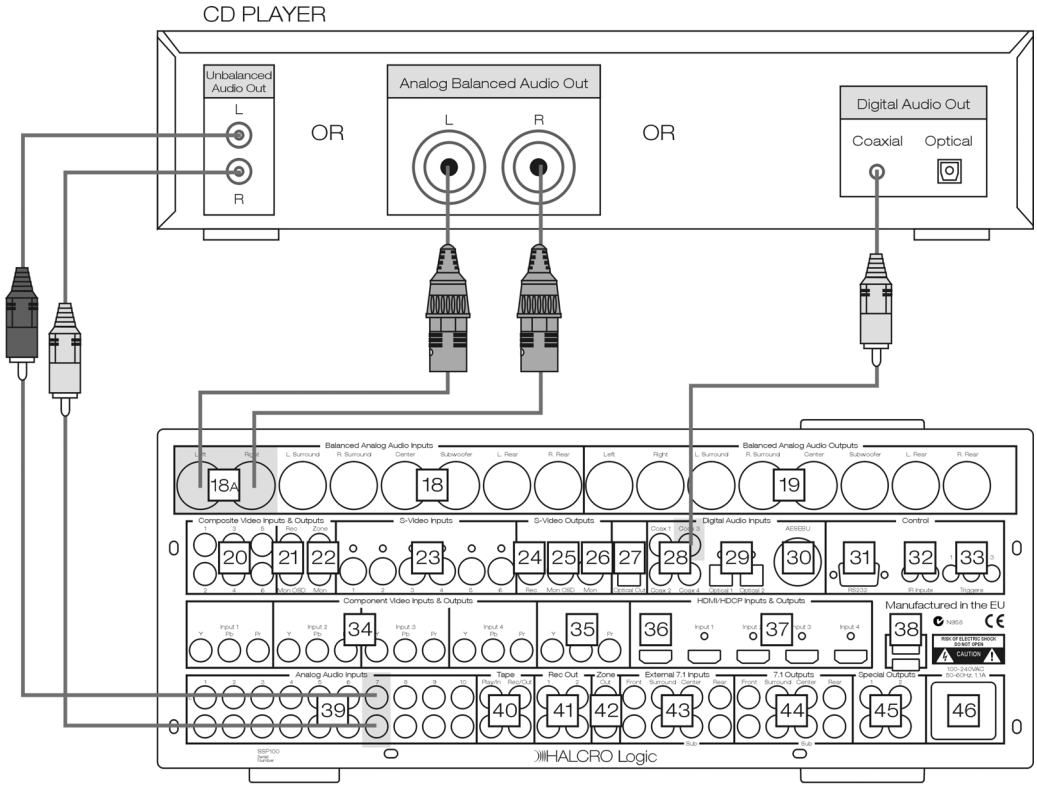


Connecting a CD player

From the CD player, connect either the digital output, or balanced or unbalanced Left/Right audio output to the corresponding audio Input on the SSP80/100 (28 or 18 or 39).

It is important to remember that no digital audio output is allowed for SACD. SACD players have digital outputs but they are for CD playing only. The SACD output is analog only.

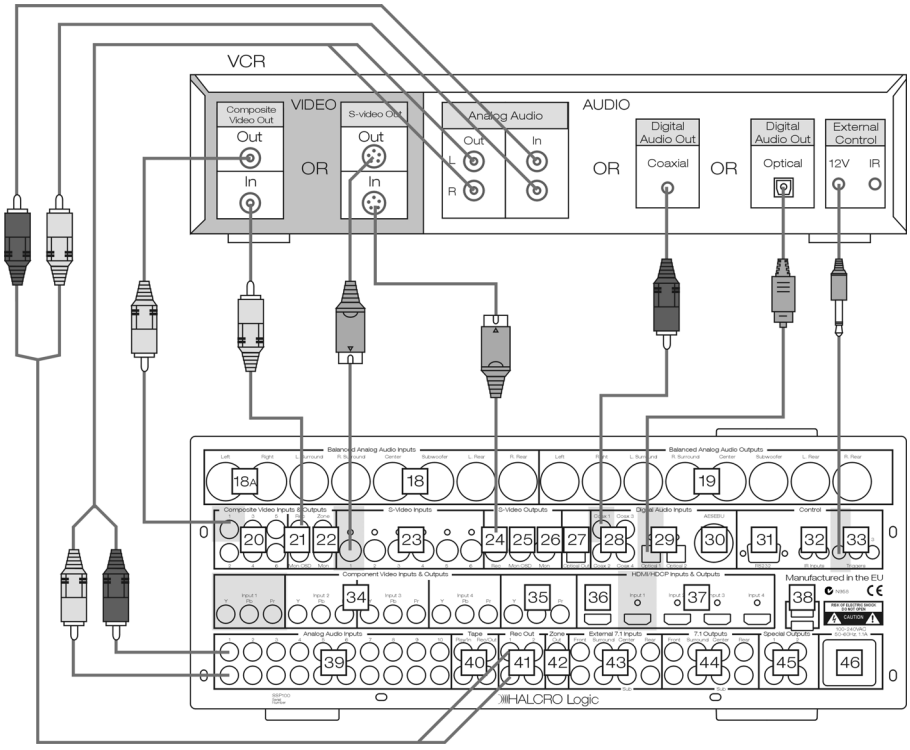
Note: Use default settings where possible.
SRC7 *— From CD or SACD player, connect balanced audio output to source input 7 (39).*
SRC8 *— From CD or SACD player, connect digital audio output to input Coax 3 (28)*



Connecting a VCR

The VCR has both audio and video connections with record option.

- *video* — from the VCR, connect the S-video/component video/composite video output to S-video/component video/composite video input on the SSP80/100 (23/34/20)
- *video record* — from the SSP80/100, connect the S-video/component
- *video/composite video output* — on the SSP80/100 (24/34/21) to the S-video/ component video/composite video input of the VCR
- *audio* — from the VCR, connect the Left/Right audio output to the analog audio input of the SSP80/100 (39)
- *audio record* — from the SSP80/100, connect the rec out (41) to the Left/Right audio input of the VCR



Viewing the Menus on the OSD

The SSP80/100 *Main Menu* and setup menus can be viewed on the On Screen Display (OSD) (4). You can access the menus using the UTSR1 remote, as explained on page 24, or using the front panel controls.

To use the front panel controls instead of the UTSR1 remote, apply the following rules in place of using the UP (∧) DOWN (∨) LEFT (<) RIGHT (>) and enter (ENT) keys on the UTSR1 SSP page 3.

- *Main Menu* — to access the SSP80/100 *Main Menu*, press the menu button on the front panel (11)

  (This is equivalent to pressing the MENU key on the UTSR1 SSP page 3.)

- *DOWN (∨)* — scroll through menu options by repeatedly pressing the menu button (11)
- *Enter (ENT)* — to access a highlighted menu setting, turn the volume control (12) in a clockwise direction
- *RIGHT (>)* — to access a highlighted menu setting, turn the volume control (12) in a clockwise direction
- *RIGHT (>)* — to change a menu setting, turn the volume control (12) in a clockwise direction

To exit the menu setting, use the menu button (11) to scroll through the options until EXIT is highlighted and then turn the volume control (12) in a clockwise direction to accept.

Note: When using the volume control (12), one 5-degree turn will 'enter' the selection. Turning the control further will adjust the settings.

SSP Setup and Operation

After completing the connection setup as outlined in the Quick Start Guide (page 29), reconnect the power to all components and turn them on.

To access the setup menus during the source setup procedure, you can use either the Universal Touch Screen Remote (UTSR1) supplied with the SSP80/100, or the front panel controls (see page 41). If using the UTSR1 for setup (recommended), you will need to charge the remote overnight before use and read the UTSR1 Owner's Manual for operation details.

Note: Four AAA batteries may be used instead of the supplied rechargeable batteries. Remember to use the supplied rechargeable AAA batteries only if using the Docking Station for charging.

Starting up

To turn on the SSP80/100:

- Connect the mains power cable from a power outlet to the unit (46), and switch the power on.
- Wait for the Standby LED to appear (3) and then press the Standby/On button (2) on the front panel of the SSP80/100 (or UTSR1) to turn the unit on.

  (A start-up message will appear on the OSD (4)).

Before you are able to watch a DVD or listen to any music, you will need to access the SSP80/100 *Main Menu* to specify the source parameters for each source component.

On screen display (OSD)

Begin the setup procedure by displaying the menu on your TV monitor/projector, as follows:

- Turn the remote on by touching its LCD screen.
- Select SSP from the options.
- Use the up/down arrows to scroll to page 3 of the SSP menu.
- Press the MENU key on page 3.

  The SSP80/100 *Main Menu* is displayed, with 'Speaker Setup' as the first option in a list.
- Scroll through the list using the down arrow until 'Display Setup' is highlighted.
- Select 'ENT' to enter the *Display Setup Menu*.
- Scroll through the list using the down arrow until 'TV system' is highlighted.
- Use the LEFT (<) RIGHT (>) keys to select either NTSC or PAL to suit your TV system (NTSC is used in the USA; PAL is used in most other countries).
- Once selected, use the UP (^) DOWN (v) keys to highlight EXIT and press ENT to return to the *Main Menu*.
- Exit again to save changes.

Watching a DVD

To watch a DVD:

- Press the Source button (8) on the front panel of the SSP80/100, and rotate the volume control (12) to select the source with the DVD player connected to it (source 1 to 6).

  Alternatively, use the UTSR1 and enter the SSP menu page 2, to select the source with the DVD player connected to it.

- Once the DVD player is shown on the display (4), wait approximately five seconds for the source to be selected.

- Place a DVD into the DVD player and press play.

You should see a picture on the TV monitor/projector and hear sound through your speakers. Use the SSP80/100 volume control (12) on the front panel (or UTSR1) to adjust the volume.

Dialog normalization

Dialog normalization (Dial Norm) is a feature of Dolby Digital, which is used to keep the programs at the same average listening level so the user does not have to change the volume control between Dolby Digital programs.

When playing back media encoded in Dolby Digital, you may sometimes see a brief message in the front panel display reading “Dial Norm X dB” (X being a numeric value). The display is showing how the program level relates with THX calibration level. If you want to play the program at calibrated theatrical levels, you may wish to adjust the volume.

For example, if you see the following message: "Dial Norm + 4 dB" in the front panel display, to keep the overall output level at THX calibrated loudness, just turn down the volume control by 4 dB. However, unlike a cinema, where the playback loudness is preset, you can choose your preferred volume setting for best enjoyment.

Listening to a CD

To listen to a CD:

- Press the Source button (8) on the front panel of the SSP80/100, and rotate the volume control (12) to select the source with the CD player connected to it (source 7 to 10).

  Alternatively, use the UTSR1 and enter the SSP menu page 2, to select the source with the CD player connected to it.
- Once the CD player is shown on the display (4), wait approximately five seconds for the source to be selected.
- Place a CD into the CD player and press play.

You should hear sound through your speakers. Use the SSP80/100 volume control (12) on the front panel (or UTSR1) to adjust the volume.

Watching a video

To watch a video:

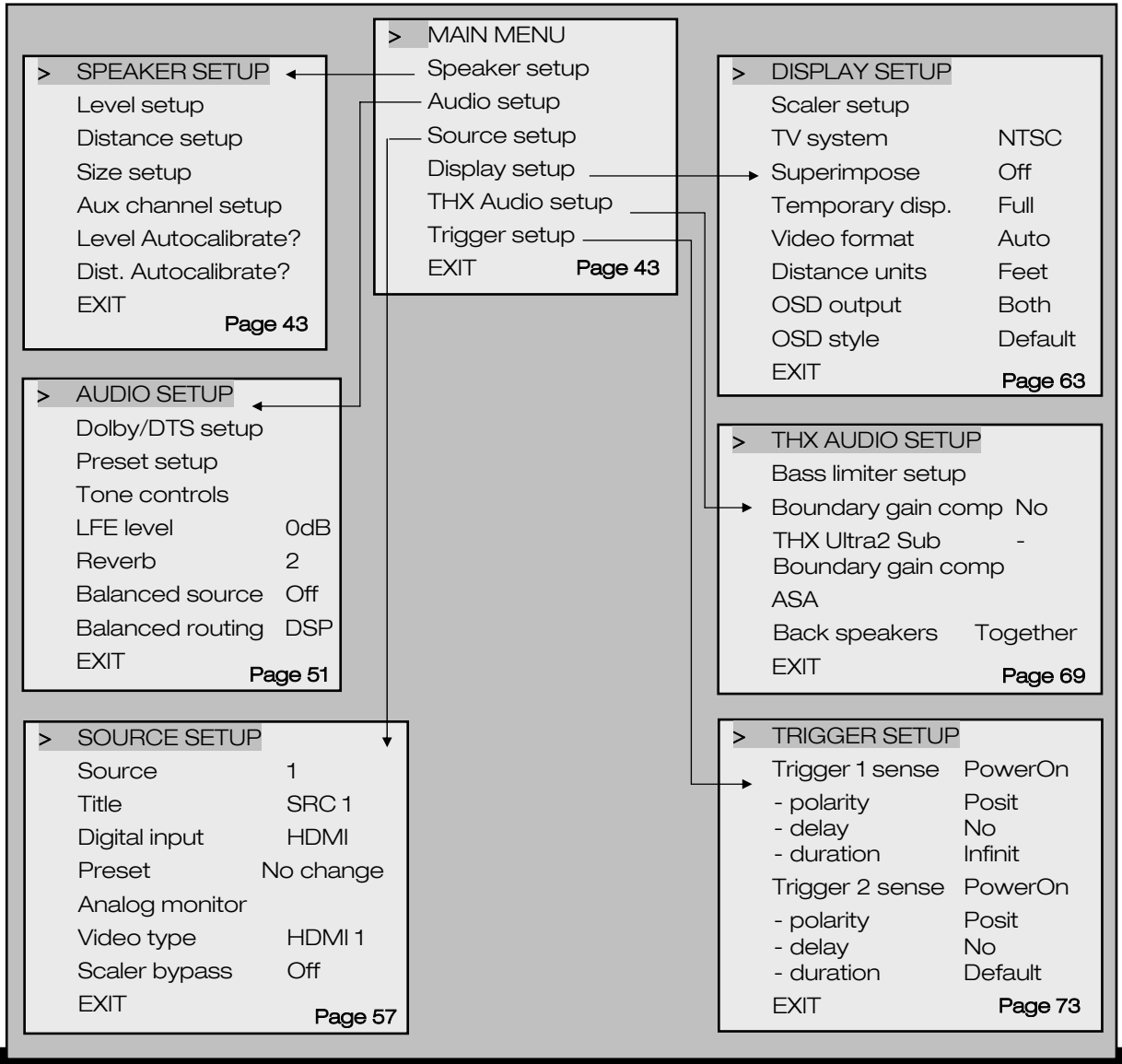
- Press the Source button (8) on the front panel of the SSP80/100 and rotate the volume control (12) to select the source with the VCR connected to it (source 1 to 6).

  Alternatively, use the UTSR1 and enter the SSP menu page 2, to select the source with the VCR connected to it.
- Once the VCR is shown on the display (4), wait approximately five seconds for the source to be selected.
- Insert a tape into the VCR and press play.

You should see a picture on the TV monitor/projector and hear sound through your speakers. Use the SSP80/100 volume control (12) on the front panel (or UTSR1) to adjust the volume.

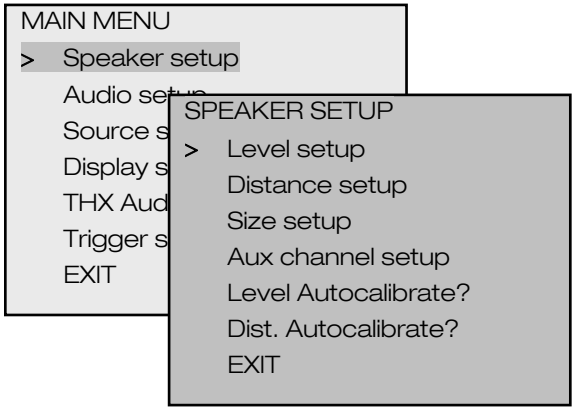
Note: The SSP80/100 allows you to enter information about the size, distance and how many speakers you have in your system. To ensure you experience the best quality audio, refer to the speaker setup information on page 49.

Menu Structure



Speaker Setup

It is important to set up the speaker system correctly to accurately recreate the recorded sound.



To access the 'Speaker setup' menu:

- Enter the *Main Menu*.
- Use the UP or DOWN keys until 'Speaker Setup' is highlighted.
- Press ENT to select.

Note: 'NONE' will be displayed if the speaker/ channel is not selected in the 'Size Setup' menu, and the optional settings (Level, distance and so on) cannot be changed. To facilitate the speaker setup the SSP80/100 comes with a calibration microphone and tone generator (built in) that is used to automatically calibrate the sound levels coming from the speakers and setup their distances relative to the listening position. This setup can also be done manually.

You can engage the noise calibration signal by pressing the TEST key on the UTSR1. This will start a test signal cycling through the channels. The test signal stays on the channel until no level change is done during the last few seconds. Pressing the TEST key again disengages the noise signal.

Level auto calibration is recommended for setting the correct speaker levels, but if manual calibration is used, the correct sound pressure should be set to 75 dB using a hand held sound pressure meter set to 'C' slow. This level corresponds to sound levels in public cinemas.

Level setup

Output channel levels are adjusted in Level setup.

LEVEL SETUP		
>	Left	0.0dB
	Center	0.0dB
	Right	0.0dB
	Right surround	0.0dB
	Right back	0.0dB
	Left back	0.0dB
	Left surround	0.0dB
	Subwoofer	0.0dB
	EXIT	

To set up output channel levels:

- From the 'Speaker Setup' menu, use the UP or DOWN keys to highlight 'Level Setup' and press ENT.
- Use the UP or DOWN keys to highlight the speaker/channel level you want to adjust.
- Use the LEFT or RIGHT keys to adjust the level to your desired setting.
- Repeat this process until you are happy with all level settings.
- Use the UP or DOWN keys to highlight EXIT and press ENT to return to the 'Speaker setup' menu

Note: The adjustment range is from –6.0 dB to +6.0 dB with 0.5 dB steps per issue (15).

You can engage the noise calibration signal by pressing the TEST key on the UTSR1. This starts a test signal cycling through the channels. The test signal stays on the channel until no level change is made during the last few seconds. Pressing the TEST key again disengages the noise signal.

Distance setup

Speaker distances must be correctly setup to ensure sound arrives simultaneously to the listening position.

DISTANCE SETUP		
>	Left	6ft
	Center	5ft
	Right	6ft
	Right surround	3ft
	Right back	0ft
	Left back	0ft
	Left surround	3ft
	Subwoofer	0ft
	EXIT	

To set up speaker distances:

- From the 'Speaker Setup' menu, use the UP or DOWN keys to highlight 'Distance Setup' and press ENT.
- Use the UP or DOWN keys to highlight the speaker/channel distance you want to adjust.
- Use the LEFT or RIGHT keys to adjust the distance to the correct setting.
- Repeat this process until you are happy with all distance settings.
- Use the UP or DOWN keys to highlight EXIT and press ENT to return to the 'Speaker setup' menu.

Note: The adjustment range is from 0ft (0m) to 63ft (21m).

Note: The maximum difference *in distance from speakers to the listening position is 15 ft (5 m). A rounding of '1 ft = 1 ms' and '3ft = 1m' is used. Refer to 'Display setup', 'Distance units' to change setup from feet to meters.*

Distance values that are 'Too distant' are highlighted in a different color (usually red). The highlighted speaker should be moved closer or the nearest speaker should be move further away.

Size setup

The 'Size setup' defines speaker and subwoofer settings.

SIZE SETUP		
>	Main speakers	Large
	Center speaker	Small
	Surround speakers	Small
	Back speakers	2Small
	Subwoofer	Yes
	Subwoofer filter	On
	Subwoofer freq.	80 Hz-THX
	Enhanced bass	Off
	EXIT	

- set speakers that are able to handle full frequency signals to 'Large' and those that cannot, to 'Small'
- if a speaker is not present (such as Center), set it to 'No'
- set THX speakers to small 80 Hz

To set up speaker sizes:

- From the 'Speaker Setup' menu, use the UP or DOWN keys to highlight 'Size setup' and press ENT.
- Use the UP or DOWN keys to highlight the speaker/channel size you want to adjust.
- Use the LEFT or RIGHT keys to adjust the size to your desired setting.
- Use the UP or DOWN keys to highlight EXIT and press ENT to return to the 'Speaker setup' menu.
- If setup is complete for all settings, use the UP or DOWN keys to highlight EXIT and press ENT to exit the Speaker setup, followed by the *Main Menu*.

Note: The subwoofer crossover range is from 40 Hz to 140 Hz with 10 Hz steps. The crossover frequency defines the frequency below, which the low frequency signal does not travel to small speakers, but is redirected to large speakers and/or a subwoofer.

Subwoofer crossover filter can be bypassed if the subwoofer's own filter is to be used.

Enhanced Bass duplicates the subwoofer information to both large speakers and subwoofer. You may desire this in some cases to get more bass from the system. By selecting "Off", the low frequencies will play through the main left and right only. This selection is preferred by THX.

Aux channel setup

'Aux channel setup' allows user configuration of channel 9 and 10 outputs, also known as 'Aux channels'. A stereo subwoofer configuration is one of the most common uses.

AUX CHANNEL SETUP		
>	Ch 9 config setup	
	-Level	0 dB
	-Delay	0 ms
	Ch 10 config setup	
	-Level	0 dB
	-Delay	0 ms
	EXIT	

- the setup procedure is the same for both channels
- if user defined configuration is selected, mix levels and filter parameters can be edited
- 'Level' sets the output level of the aux channel
- 'Delay' allows the output signal to be delayed for special effects or setting the correct distance to the listening position

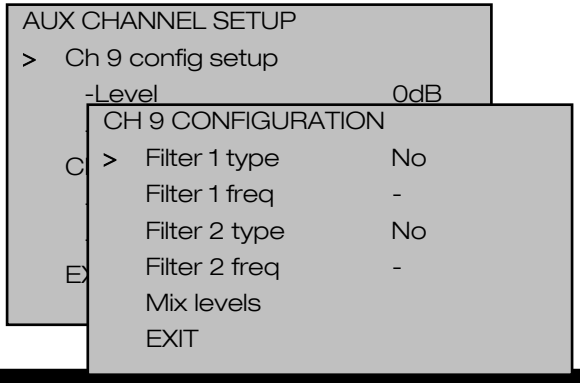
  (Max. delay is 80 ms for aux channels, where 1 millisecond corresponds to approx. 1 ft or 0.3 m.)

To set up auxiliary channels:

- From the 'Speaker Setup' menu, use the UP or DOWN keys to highlight 'Aux channel setup' and press ENT.
- Set up the auxiliary channel configuration (see page 53).
- Set the 'Level' settings on either channel, using the UP or DOWN keys to highlight 'Level', then use the LEFT or RIGHT keys to adjust the level to your desired setting.
- Set the 'Delay' settings on either channel, using the UP or DOWN keys to highlight 'Delay, then use the LEFT or RIGHT keys to adjust the time to your desired setting.
- If you are happy with all the settings, use the UP or DOWN keys to highlight EXIT and press ENT to return to the 'Speaker setup' menu.

Configuration setup

Aux channel configuration setup contains the parameters for user adjustable presets.



- filter type sets the type of the filter used: none, lowpass or highpass
- filter frequency sets the crossover frequency used

  Highpass allows filter values between 20 Hz- 1 kHz and lowpass 20 Hz – 18 kHz.

To set the configuration:

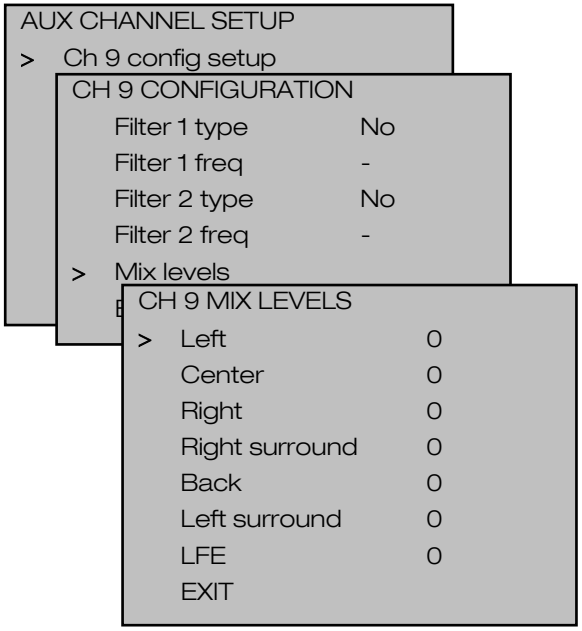
- From the 'Aux channel setup' menu, use the UP or DOWN keys to highlight either 'Ch 9 config setup' or 'Ch 10 config setup' and press ENT.
- Use the UP and DOWN keys to highlight the filter type you want to adjust.
- Use the LEFT or RIGHT keys to select the filter type.
- Select filter frequency.
- Use the LEFT or RIGHT keys to select filter frequency.
- Use the UP or DOWN keys to highlight EXIT.
- If you have finished making changes, press ENT to return to the 'Speaker setup' menu.

Mixing Levels

The 'Mix levels' setup defines the source signal for the aux channel. Aux channel signals are generated from other audio channels before delay is added in the DSP (Digital Signal Processing.

Note: The mix level range is from -100 to 100, where zero value equals no signal, 100 equals max. volume and -100 equals max. volume with phase inverted.

Level range is linear, so for example, a 50 setting means a 6 dB quieter signal than the 100 setting and a 25 setting means a 12 dB quieter signal than the 100 setting.



To set up mix levels:

- From the 'Configuration setup' menu, use the UP or DOWN keys to highlight 'Mix levels' and press ENT
- Use the UP or DOWN keys to highlight the channels you want to select for mixing.
- Use the LEFT or RIGHT keys to adjust the source channel levels and phase for mixing.
- When adjustments are complete, use the UP or DOWN keys to highlight EXIT and press ENT to return to the 'Configuration' menu.
- Use the UP or DOWN keys again to highlight EXIT and press ENT to return to the 'Speaker setup' menu.

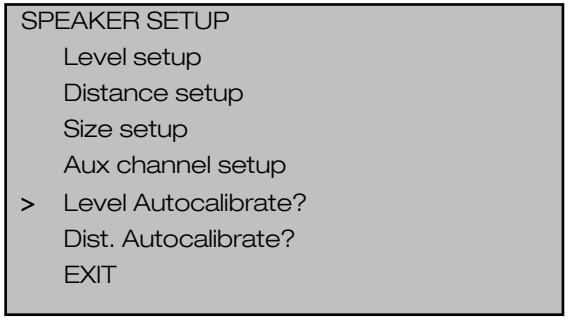
Autocalibrate — level and distance

There are two steps involved in the Autocalibration; level and distance. Level autocalibration must be executed first to provide a more accurate result regarding subwoofer distance.

Before starting autocalibration, make sure there is no significant background noise, which may interfere with the process. Also have your microphone ready with one AA battery installed, and connect the cable to the base of the microphone and tighten the plastic nut.

There must be no obstruction between the calibration microphone and the speakers during the autocalibration process.

Do not stand between the microphone and any speaker during this process.



To begin autocalibration:

- Connect the microphone cable to the MIC socket (15) on the SSP80/100 front panel.
- Place the microphone in the listening position with the mesh pointing to the ceiling.
- Switch the microphone ON by moving the switch towards the dot.
- From the 'Speaker Setup' menu, use the UP or DOWN keys to highlight 'Level autocalibrate' and press ENT.

The autocalibrate process will begin, usually taking a few minutes. Wait until the process is complete before proceeding. New level values will be written to the 'Level setup'.

- Repeat the steps outlined above for Distance autocalibration.
- Once completed, use the UP or DOWN keys to highlight EXIT and press ENT to return to the *Main Menu*.
- When the autocalibration process is complete, remove the battery from the microphone and store in a dry location.

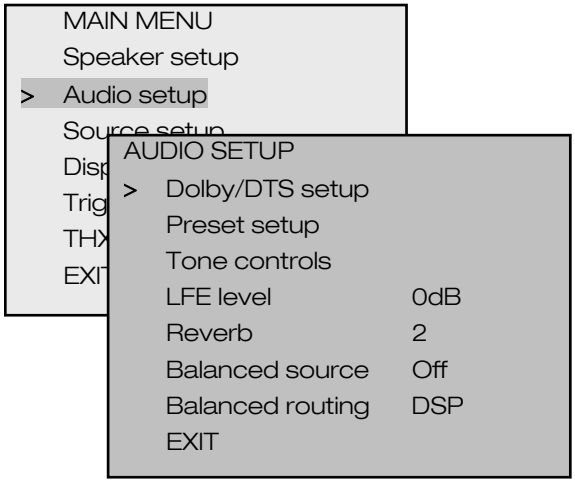
Sometimes, due to interaction with the room, you may notice irregular results when setting the level and/or distance of the main speakers. If this happens, THX recommends setting them manually.

Note: You may notice that subwoofer distance values are different than the exact physical distance. This is due to the autocalibration process measuring 'acoustic' distance, not physical distance. Acoustic distance is usually greater than actual measurements. If the measurement is too great i.e. the distance is displayed in the error color in the Distance Setup, reduce the subwoofer distance until the value is legal.

Note: Do not use any other type of microphones!

Audio Setup

The Audio Setup includes Dolby/DTS, Bass limiter, Tone, Preset, LFE, Reverberation and Balanced Input settings and affects all source input channels.



To select Audio setup:

- Enter the *Main Menu*.
- Use the UP or DOWN keys until *Audio Setup* is highlighted.
- Press ENT to select.

Dolby/DTS setup

Setup parameters are as follows:

- *PL II panorama – On/Off*
  Extends the front stereo image to include surround speakers.

  When panorama is 'On', the music signals from the front channels are spread to surround channels to create a wraparound effect.

- *PLII width – Min, 1 to 6, Max*
  Controls the width of the front sound field in PLII Music mode.

  Sound from the Center channel is distributed to the front Left and Right channel speakers to create a smooth blend of sound across the front.

- *PLII dimension – -3 to 3*
  Allows the user to adjust the soundstage either to the front or to the rear varying the spatial effect.

  The dimension ± range controls the front-surround balance of the sound field in PLII Music Mode. When set at 0 the control has no effect. When set + the surround field moves to the front and when - the field moves to the rear.

- *Neo:6 Center Image – Min, 1 to 4, Max*
  Controls the width of the front sound field in Neo:6 Music mode.

  Sound from the Center channel is distributed to the front Left and Right channel speakers to create a smooth blend of sound across the front.

DOLBY/DTS SETUP		
>	PL II panorama	Off
	PL II width	3
	PL II dimension	0
	Neo6 center image	2
	EXIT	

To set up Dolby/DTS:

- From the *Audio Setup* menu, use the UP or DOWN keys to highlight *Dolby/DTS Se*tup and press ENT (Enter).
- Use the UP or DOWN keys to highlight the setting you want to adjust
- Once the setting is highlighted, use the LEFT or RIGHT keys to adjust the values
- When satisfied with the values, use the UP or DOWN keys to highlight EXIT and press ENT to return to the *Audio Setup* menu.

Preset setup

The Preset setup allows compensation for possible variations in the audio outputs from different sources.

The Treble and Bass settings replace the Treble and Bass in the Tone setup for any source that has a preset selected.

Center, Surround and Subwoofer settings are added to the values in Level setup, where levels can be increased or decreased by ±12 dB.

The Lipsync feature controls the system wide audio delay to ensure the audio and video are in sync. With this adjustment you can re-sync audio and video signals, where the range is 0-150 ms at up to 48 kHz sample rate signals and up to 70 ms at up to 96 kHz signals.

PRESET SETUP

>	Preset		1

PRESET SETUP

>	Preset	----- + -----	1
	Treble	----- + -----	0dB
	Bass	----- + -----	0dB
	Center	----- + -----	0dB
	Surround	----- + -----	0dB
	Subw	----- + -----	0dB
	Lipsync		130ms
	EXIT		

To adjust Preset settings:

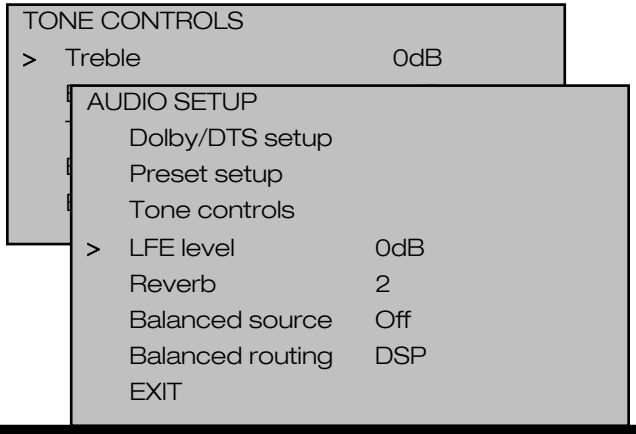
- From the *Audio Setup* menu, use the UP or DOWN keys to highlight 'Preset setup' and press ENT.
- Use the UP or DOWN keys to highlight the setting you want to adjust.
- Once the setting is highlighted, use the LEFT or RIGHT keys to adjust the values.
- When satisfied with the values, use the UP or DOWN keys to highlight EXIT and press ENT to return to the *Audio Setup* menu.

Note: Remember to assign the presets to the sources with which you want to use them, from the Source Setup menu.

Tone controls

Tone controls allow additional tuning of the audio outputs and filter frequencies.

The Bass and Treble adjustment range is from –12 dB to +12 dB with 1 dB steps.



The Tone filters for the Treble filter are 6 kHz, 8 kHz and 10 kHz and for the Bass filter they are 80 Hz, 110 Hz and 140 Hz.

To adjust Tone controls:

- From the *Audio Setup* menu, use the UP or DOWN keys to highlight 'Tone controls' and press ENT.
- Use the UP or DOWN keys to highlight the setting you want to adjust.
- Once the setting is highlighted, use the LEFT or RIGHT keys to adjust the values.
- When satisfied with the values, use the UP or DOWN keys to highlight EXIT and press ENT to return to the *Audio Setup* menu.

Low frequency effects (LFE)

The LFE channel contains only low frequency signals and is the '0.1' of the 5.1 or 6.1 channel digital surround signal. LFE channel is present only with Dolby Digital, DTS and DTS-ES channel sources.

To adjust the LFE level:

- From the *Audio Setup* menu, use the UP or DOWN keys to highlight *LFE level*.
- Once the setting is highlighted, use the LEFT or RIGHT keys to adjust the value.
- When satisfied with the value, use the UP or DOWN keys to highlight the next setting or EXIT to return to the *Main Menu*.

Note: The adjustment range is from –10 dB to 0 dB with 1 dB steps.

Note: In THX modes, tone controls are bypassed.

Reverb

The Reverb-parameter adjusts the level of reverberation effect of the ambient music modes (Dry, 1,2,3, Wet). Dry has the least reverberation and Wet has the most. With this control it is possible to manipulate the ambience of the listening area to replicate a range of listening environments.

	AUDIO SETUP	
	Dolby/DTS setup	
	Preset setup	
	Tone controls	
	LFE level	0dB
>	Reverb	2
	Balanced source	Off
	Balanced routing	DSP
	EXIT	

To adjust the Reverb setting:

- From the *Audio Setup* menu, use the UP or DOWN keys to highlight *Reverb*.
- Once the setting is highlighted, use the LEFT or RIGHT keys to adjust the value.
- When satisfied with the value, use the UP or DOWN keys to highlight the next setting or EXIT to return to the *Main Menu*.

Balanced source

	AUDIO SETUP	
	Dolby/DTS setup	
	Preset setup	
	Tone controls	
	LFE level	0dB
	Reverb	2
>	Balanced source	Off
	Balanced routing	DSP
	EXIT	

Balanced source assigns the balanced audio input to any of the ten input sources. When the balanced source is selected (SRC7) it replaces the unbalanced analog input from that source.

To change the balanced source setting:

- From the *Audio Setup* menu, use the UP or DOWN keys to highlight *Balanced source*.
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Balanced routing

The Balanced routing setup has two options: Bypass or DSP (Digital Signal Processing).

AUDIO SETUP		
	Dolby/DTS setup	
	Preset setup	
	Tone controls	
	LFE level	0dB
	Reverb	2
	Balanced source	Off
>	Balanced routing	DSP
	EXIT	

Bypass enables the shortest possible signal routing, where the signal only travels through the volume controller and directly to the balanced 7.1 outputs.

DSP processing is available if DSP is selected.

Note: In 'Bypass' mode, the signal is available only at the balanced 7.1 outputs and no post-processing or bass management is available. If using the SSP100, only the Left and Right channels are routed to the DSP.

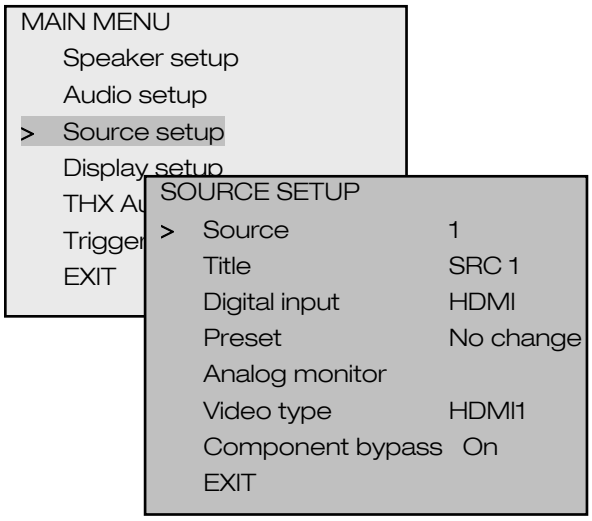
To change the balanced routing setting:

- From the *Audio Setup* menu, use the UP or DOWN keys to highlight 'Balanced source'.
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Source Setup

The SSP80/100 is shipped with factory default settings and the *Source Setup* menu allows customization of each audio/video source.

Source numbers correspond to the source input numbers on the rear panel of the SSP80/100 (39). Sources 1 to 6 have their respective Analog Audio Inputs, Composite Video Inputs and S-video Inputs linked. All other inputs are assignable to any of the ten input sources.



To set up a source:

- Enter the *Main Menu*.
- Use the UP or DOWN keys until *Source Setup* is highlighted.
- Press ENT to select.

Source numbers correspond with the source input numbers on the rear panel of the SSP80/100 (39). Sources 1 to 6 are linked with Analog Audio Inputs 1 to 6, Composite Video inputs 1 to 6 and S-Video inputs 1 to 6. All other inputs are assignable to any of the ten input sources.

From the default list, you need to select the video and audio option that suits your source component or modify to suit.

Note: the assignable video and audio inputs can be assigned to inputs Source 1 - 10.

Source

The currently selected source is automatically shown when you enter the *Source Setup* menu.

SOURCE SETUP		
>	Source	1
	Title	DVD-1
	Digital input	HDMI
	Preset	No change
	Analog monitor	
	Video type	HDMI 1
	Component bypass	On
	EXIT	

To modify a different source:

- From the *Source Setup* menu, use the UP or DOWN keys to highlight *Source*.
- Once the setting is highlighted, use the LEFT or RIGHT keys to change the source (1 to 10).
- When the correct source has been selected, use the UP or DOWN keys to highlight the next setting to be adjusted.

Title

The 'Title' setting allows you to edit the name or title of the source.

SOURCE SETUP		
	Source	1
>	Title	DVD-1
		▲
	Preset	No change
	Analog monitor	
	Video type	HDMI 1
	Component bypass	On
	EXIT	

To change the title:

- From the *Source Setup* menu, use the UP or DOWN keys to highlight 'Title'.
- Once the setting is highlighted, press ENT to select.
- Use the LEFT or RIGHT keys to highlight the letter you would like to change.
- Use the UP or DOWN keys to change the characters.
- Once the name has been changed, press ENT.
- Use the UP or DOWN keys to highlight the next setting to be adjusted.

Digital input

There are eight digital inputs that can be assigned to a source: coax 1, coax 2, coax 3, coax 4, Opt 1, Opt 2, AES/EBU and HDMI.

SOURCE SETUP		
	Source	1
	Title	DVD-1
>	Digital input	HDMI
	Preset	No change
	Analog monitor	
	Video type	HDMI 1
	Component bypass	On
	EXIT	

To change the *Digital input* option:

- Make sure the correct source is highlighted in the *Source Setup* menu.
- From the *Source Setup* menu, use the UP or DOWN keys to highlight *Digital input*.
- Use the LEFT or RIGHT keys to select the correct digital input.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Preset

There are seven 'Preset' options that can be associated to the selected source. These options are: No Change, Flat Trims and 1 to 5.

SOURCE SETUP		
	Source	1
	Title	DVD-1
	Digital input	HDMI
>	Preset	No change
	Analog monitor	
	Video type	HDMI 1
	Component bypass	On
	EXIT	

- *No change* — the values in the Tone controls or Trims are not changed
- *Flat Trims* — if Tone Controls are used, flat trims will override them by setting Bass and Treble to zero

Note: If the setting is 'No change', the last selected 'Preset' setting is still active.

If flat settings are wanted, select 'Flat' when all trims are set to zero and treble and bass are the default values defined in Audio setup.

To change the 'Preset':

- Make sure the correct source is highlighted in the *Source Setup* menu.
- From the *Source Setup* menu, use the UP or DOWN keys to highlight 'Preset'.
- Use the LEFT RIGHT keys to change the setting.
- Once the setting is correct, use the UP DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

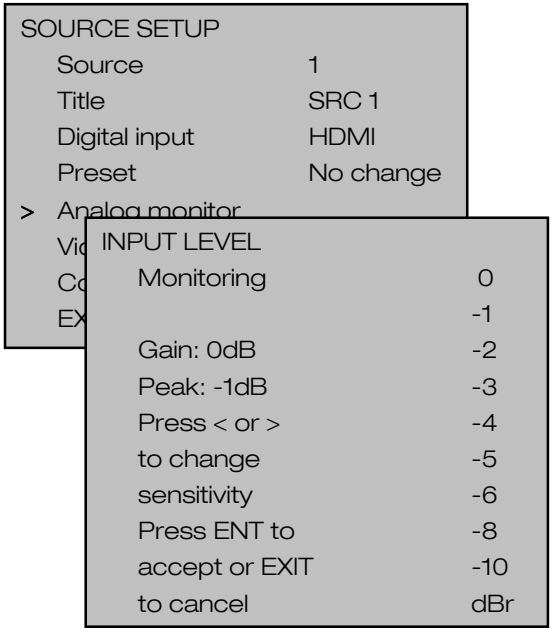
Analog monitor

Analog Monitor is a link to a special screen mode, which can be seen only using On Screen Display (OSD). Analog sensitivity adjusts the input gain of the analog to digital converter for each input source.

Note: The adjustment range is from –5 dB to +10 dB with 1 dB steps.

For CD players and other sources with a similar signal level we recommend a value below 0 dB, since many players have relatively high output levels. The 0 dB gain setting ensures that a 2 V input signal level does not distort.

Note: Always use the Analog Monitor mode when setting up the analog sensitivity values.



To adjust the *Analog monitor*:

- Play some music that has high peak levels and see if the signal clips.
- Make sure the correct source is highlighted in the *Source Setup* menu.
- From the *Source Setup* menu, use the UP or DOWN keys to highlight *Analog monitor*.
- Once highlighted press ENT.

Continue as follows:

- Use the LEFT or RIGHT keys to adjust the gain so that the signal never clips and the peaks are located within a few decibels of the 0 dB level.
- Use the UP or DOWN keys to change the scale used.
- To accept the new value, press ENT or press ESC to exit without saving changes.
- Both of these options will return you to the *Source Setup* menu.

Note: Analog Monitor can also be used for monitoring digital input level, however input gain cannot be changed.

Video type

The video type parameter selects the video input for the current source from the Component video and HDMI inputs. The Video type parameter also includes the Up-conversion feature that converts Composite and S-Video to HDMI.

SOURCE SETUP		
	Source	1
	Title	SRC 1
	Digital input	HDMI
	Preset	No change
	Analog monitor	
>	Video type	HDMI1
	Component bypass	On
	EXIT	

When adjusting the *Video type* setting, follow the rules below:

- select 'Off' if Component video and HDMI is not used with the source being setup
- assign the Comp 1,2,3,4, HDMI 1,2,3,4 input number to the source if the component video or HDMI output is required
- assign 'Up-conv' (Up-conversion) if the source being connected does not have a Component video or HDMI output and the display is capable of accepting Component video or HDMI inputs

  Up-conversion from Component video to HDMI is automatic.

  For optimum video performance, THX recommends that video pass through (bypass) is used.

To adjust the *Video type*:

- Make sure the correct source is highlighted in the *Source Setup* menu.
- From the *Source Setup* menu, use the UP or DOWN keys to highlight *Video type*.
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Scaler bypass (SSP100 only)

The scaler bypass parameter feeds the HDMI and component video input straight through to the HDMI and component video output sockets (On) or routes the HDMI and component video inputs through to the video DSP (Off).

There is no video DSP in the SSP80

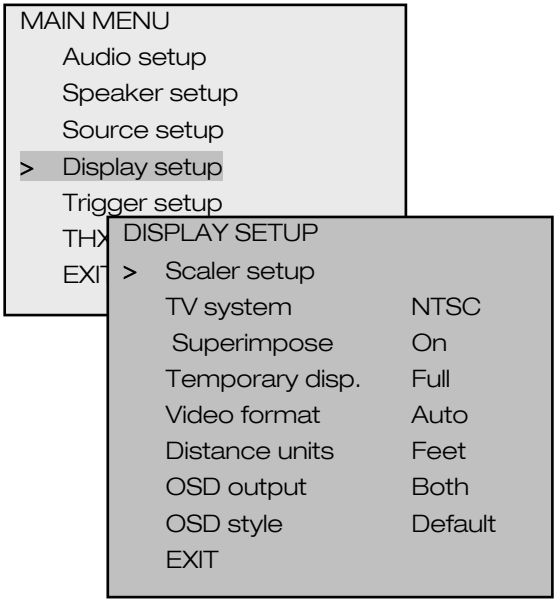
SOURCE SETUP		
	Source	1
	Title	SRC 1
	Digital input	HDMI
	Preset	No change
	Analog monitor	
	Video type	HDMI1
>	Scaler bypass	On
	EXIT	

To change the *Scaler bypass* setting:

- From the *Source Setup* menu, use the *Scaler bypass*.
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Display Setup

The Display Setup specifies the parameters for the On Screen Display (OSD), distance units of measure and display system setup.



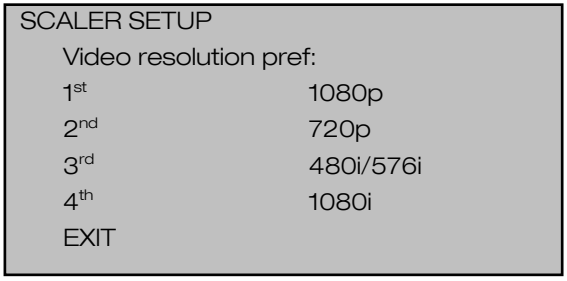
To access the 'Display setup' menu:

- Enter the *Main Menu*.
- Use the UP or DOWN keys until *Display Setup* is highlighted.
- Press ENT to select.

Scaler setup

The Scaler setup is used to match the SSP80/100 video output resolutions to the input resolution of the display and rank them in order of preference. There are five possible output configurations:

- 1080p
- 1080i
- 720p
- 480p/576p (NTSC/PAL)
- 480i/576i
- (None)



To change the *Scaler setup* preferences:

- From the *Display Setup* menu, use the UP or DOWN keys to highlight 'Scaler setup' and press ENT.
- To change the 1st preference, use the UP or DOWN keys to highlight '1st'.
- Use the LEFT or RIGHT keys to change the output resolution to your desired setting.
- Repeat the above process for preferences 2 to 4; that is. use the UP and DOWN keys to highlight 2nd, 3rd, 4th, then use the LEFT and RIGHT keys to change the output resolution.
- If you are happy with all the settings, use the UP or DOWN keys to highlight EXIT and press ENT to return to the 'Display setup' menu.

Note: the Scaler Setup allows you to customize your preference for output video formats from the component video and HDMI sockets.

The system will use your preferences to give you the best possible output and where this is not available, it will default to your next preference.

TV system

There are two options regarding OSD settings and these can be adjusted in the TV system setup. Depending on your location, select either NTSC (National Television Standards Committee) or PAL (Phase Alternating Line).

DISPLAY SETUP		
	Scaler Setup	
>	TV system	NTSC
	Superimpose	On
	Temporary disp.	Full
	Video format	Auto
	Distance units	Feet
	OSD output	Both
	OSD style	Default
	EXIT	

To change the *TV system* setting for the OSD:

- From the *Display Setup* menu, use the UP or DOWN keys to highlight *TV system*.
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Note: If you are not sure what your country television standard is, contact your dealer.

Superimpose

Superimpose allows the OSD to replace the TV picture (Off) or be superimposed over it (On). When OSD replaces the TV picture, the background color is defined by the 'OSD style' parameter. Superimpose is not available for component video and HDMI inputs.

DISPLAY SETUP		
	Scaler Setup	
	TV system	NTSC
>	Superimpose	On
	Temporary disp.	Full
	Video format	Auto
	Distance units	Feet
	OSD output	Both
	OSD style	Default
	EXIT	

To change the *Superimpose* setting:

- From the *Display Setup* menu, use the UP or DOWN keys to highlight *Superimpose*.
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Temporary display

During normal operation you can make a 'temporary' OSD message appear every time an adjustment is made. There are three temporary display options: Full, Simple and Off.

- *full* — every time there is a change (to audio stream format, inputs, or volume) all the OSD data is written to the screen
- *simple* — some OSD information is written to the screen
- *off* — there is no OSD

DISPLAY SETUP		
	TV system	NTSC
	Superimpose	On
>	Temporary disp.	Full
	Video format	Auto
	Distance units	Feet
	OSD output	Both
	OSD style	Default
	EXIT	

To change the *Temporary disp* setting:

- From the *Display Setup* menu, use the UP or DOWN keys to highlight *Temporary disp*.
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Video format

Sources 1 to 6 have their composite video and S-Video linked to analog audio inputs 1 to 6. The video format function allows you to select between composite video, S-video and Automatic.

- *Composite video* — the system will select the composite video input
- *S-Video* — the system will select the S-Video input
- *Auto* — when both the composite and S-video inputs are connected the system will select the S-Video input.

DISPLAY SETUP		
	Scaler Setup	
	TV system	NTSC
	Superimpose	On
	Temporary disp.	Full
>	Video format	Auto
	Distance units	Feet
	OSD output	Both
	OSD style	Default
	EXIT	

To change the *Video format* setting:

- From the *Display Setup* menu, use the UP or DOWN keys to highlight *Video format*.
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Distance units

This setting allows you to define the measurement units (feet or meters) used in the *Distance setup* and during autocalibration.

DISPLAY SETUP		
	Scaler Setup	
	TV system	NTSC
	Superimpose	On
	Temporary disp.	Full
	Video format	Auto
>	Distance units	Feet
	OSD output	Both
	OSD style	Default
	EXIT	

To change the *Distance units* setting:

- From the *Display Setup* menu, use the UP or DOWN keys to highlight *Distance units*.
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

OSD output

There are two options that can be selected regarding where to send the OSD output. These options are:

- Composite video monitor output
- Both composite and s-video outputs

DISPLAY SETUP		
	Scaler Setup	
	TV system	NTSC
	Superimpose	On
	Temporary disp.	Full
	Video format	Auto
	Distance units	Feet
>	OSD output	Both
	OSD style	Default
	EXIT	

To change the *OSD output* setting:

- From the *Display Setup* menu, use the UP or DOWN keys to highlight *OSD output*.
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

OSD style

OSD style allows you to adjust the colors used for screen text, background and error messages.

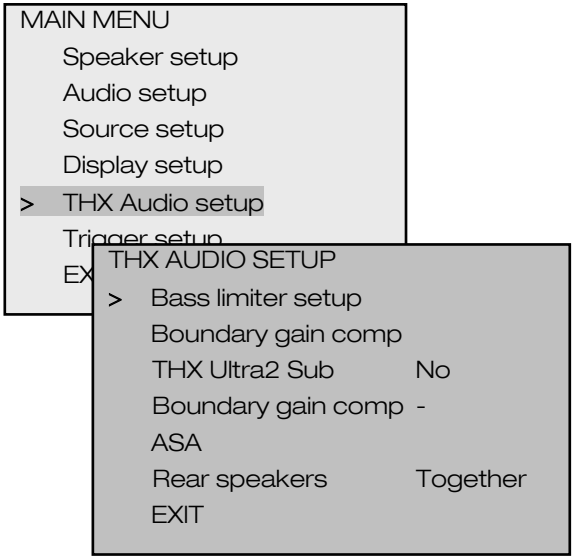
DISPLAY SETUP		
	Scaler Setup	
	TV system	NTSC
	Superimpose	On
	Temporary disp.	Full
	Video format	Auto
	Distance units	Feet
	OSD output	Both
>	OSD style	Default
	EXIT	

To change the *OSD style* setting:

- From the *Display Setup* menu, use the UP or DOWN keys to highlight 'OSD style'.
- Use the LEFT or RIGHT keys to change scroll through the options.
- Once you are happy with the display setting, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

THX Audio

The THX Audio setup contains THX specific parameters such as Bass Limiter setup.

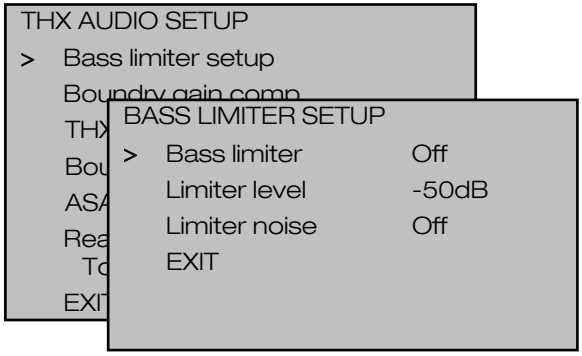


To access the *THX Audio Setup* menu:

- Enter the *Main Menu*.
- Use the UP or DOWN keys until *THX Audio setup* is highlighted.
- Press ENT to select.

Bass limiter setup

Bass limiter is a THX feature, which may be used to limit the bass peak value, preventing distortion in smaller subwoofers.



To change the *Bass limiter setup*:

- From the *THX Audio Setup* menu, use the UP or DOWN keys to highlight *Bass limiter setup* and press ENT.
- Use the UP or DOWN keys to highlight 'Limiter noise'.
- Then use the LEFT or RIGHT keys to select *On*. (Silent low frequency noise should be heard from the subwoofer.)
- Once *On* has been selected, use the UP or DOWN keys to highlight *Limiter level*.

Continue as follows:

- Use the LEFT or RIGHT keys to increase the volume until the noise sounds distorted.
- Once the noise has distorted, use the UP or DOWN keys to highlight *Limiter noise*.
- Then use the LEFT or RIGHT keys to select *Off*.
- Use the UP or DOWN keys to highlight *Bass limiter*.
- Use the LEFT or RIGHT keys to select *On*.

  The above steps have set a maximum level so the subwoofer will not sound distorted even during the loudest passages.
- Once the setup is complete, use the UP or DOWN keys to highlight EXIT to save and return to the *THX Audio Setup* menu.

Note: If you have a very large subwoofer, you can set Bass limiter to Off.

Boundary gain compensation

Boundary Gain Compensation (BGC) is a processing method that allows compensation for the natural gain of the lowest bass signals in typical sized listening rooms. This phenomenon does not occur with small subwoofers, however if a THX Ultra approved subwoofer, or a subwoofer that goes down to 20 Hz, is used the lowest bass may become 'boomy'. By activating BGC, the bass sound quality can be improved.

THX AUDIO SETUP		
	Bass limiter setup	
	Boundary gain comp	
>	THX Ultra2 Sub	No
	Boundary gain comp	-
	ASA	
	Rear speakers	Together
	EXIT	

To adjust the *Boundary gain comp* setting:

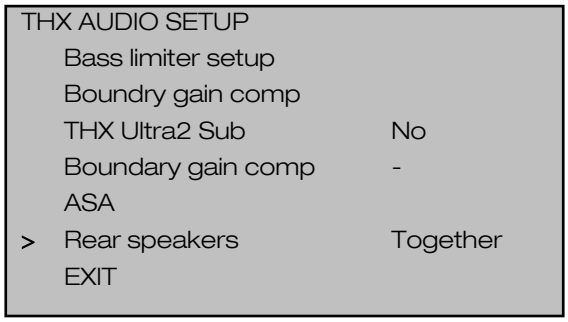
- From the *THX Audio Setup* menu, use the UP or DOWN keys to highlight *THX Ultra2 Sub.*
- Use the LEFT or RIGHT keys to change the setting (Yes/No).
- Once the setting is correct, use the UP or DOWN keys to highlight the *Boundary gain comp*.
- Use the LEFT or RIGHT keys to change the setting (On/Off).
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Advanced speaker array

Advanced Speaker Array (ASA) is a THX processing method that increases the 'sweet spot' area depending on the spacing of the rear speakers.

Select the following 'Rear speaker' separation:

- *together* — closer than 4 feet (1.2 m)
- *close* — 4 feet (1.2 m)
- *apart* — further apart than 4 feet (1.2 m)



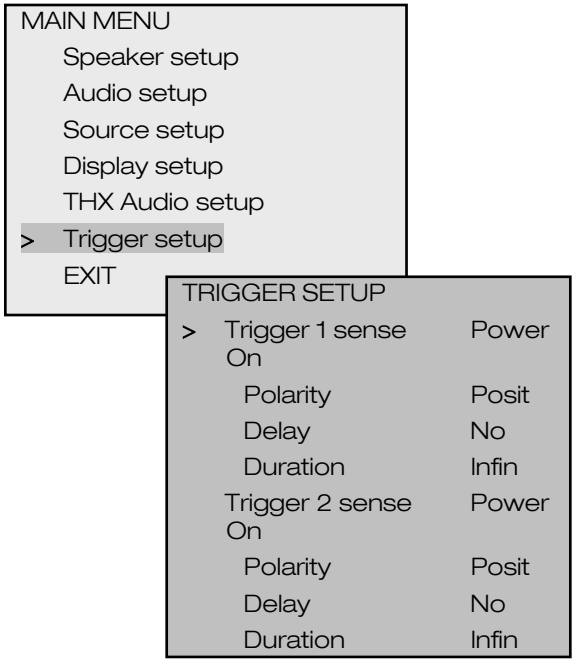
To adjust the *ASA* setting:

- From the *THX Audio Setup* menu, use the UP or DOWN keys to highlight *ASA – rear speakers.*
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Note: ASA is active only during THX Ultra2 Cinema, THX MusicMode, and THX Games Mode.

Trigger Setup

If the SSP80/100 is connected to components with provision for a trigger, you can automatically turn them on and off with the Trigger sense 1 or 2 option. Connect a trigger output (33) from the SSP to the trigger input of your power amplifier, TV monitor/projector etc and use the Trigger setup menu to modify the settings.

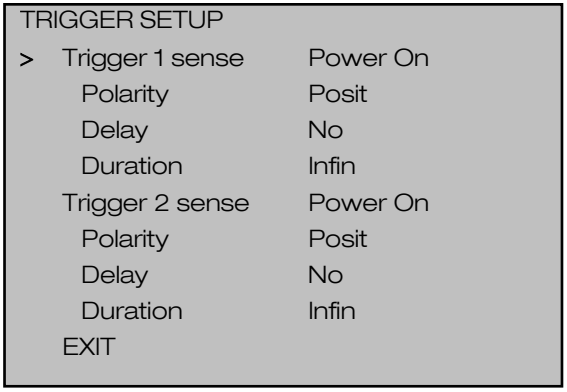


To access the 'Trigger setup' menu:

- Enter the *Main Menu*.
- Use the UP DOWN keys until *Trigger Setup* is highlighted.
- Press ENT to select.

Trigger 1, 2 & 3

The setup procedure is the same for each trigger setting and the settings for *Trig 2* are duplicated to *Trig 3*.



Trigger sense1 sets which action or system state activates the trigger output. Use the following settings as required:

- *Power On* — activates trigger when switching out of STANDBY and de-activates when returning to STANDBY
- *Source* — activates trigger output when you select any of the sources. For example: Video1, Video2, Audio1, Audio2

  (The names listed may vary if you have customized source 'Titles' in the Source Setup menu.)
- *Dimmer* — activates trigger when the VFD is dimmed, so you can control for example the lighting of the room at the same time
- *Compos* — activates trigger when the system receives a composite video signal
- *S-video* — activates trigger when the system receives an S-video signal
- *VidSign* — activates trigger when either composite video or S-video is received
- *VidSrc* — activates trigger when video source is selected
- *AudSrc* — activates trigger when audio source is selected

To adjust the *Trigger sense* setting:

- From the *Trigger Setup* menu, use the UP or DOWN keys to highlight *Trigger 1 sense*.
- Use the LEFT RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Polarity

There are two options for settings the polarity of the trigger output, either positive or negative.

- *Posit.* — gives a +12V DC output when the trigger is active and +0V when inactive
- *Negat.* — gives +0 V DC output when the trigger is active and +12 V when inactive

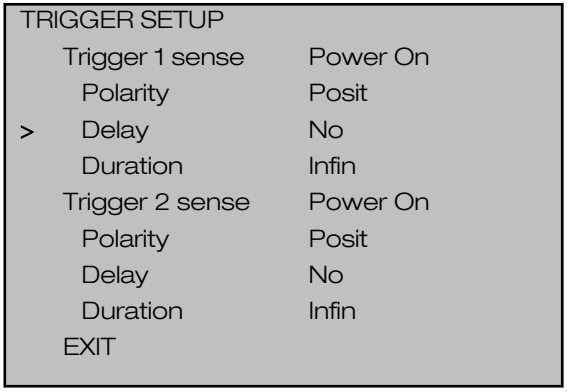
TRIGGER SETUP		
	Trigger 1 sense	Power On
>	Polarity	Posit
	Delay	No
	Duration	Infin
	Trigger 2 sense	Power On
	Polarity	Posit
	Delay	No
	Duration	Infin
	EXIT	

To adjust the *Polarity* setting:

- From the *Trigger Setup* menu, use the UP or DOWN keys to highlight *Polarity*.
- Use the LEFT or RIGHT keys to change the setting (Posit/Negat).
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Delay

The delay setting enables a delay to be set up between the 'sense' signal and the trigger output voltage change. The delay can be set between 1 second and 3 minutes. Alternatively, the delay can be set to *No* for zero delay.

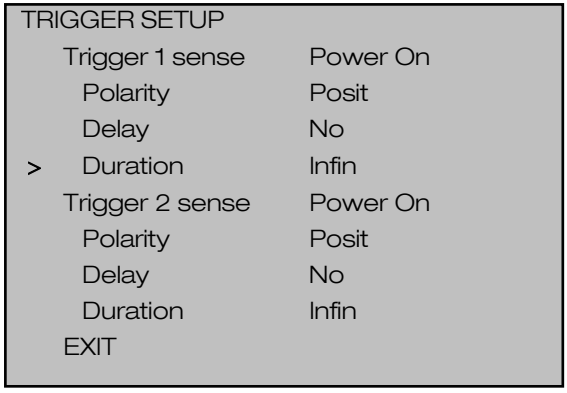


To adjust the *Delay* setting:

- From the *Trigger Setup* menu, use the UP or DOWN keys to highlight 'Delay'.
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Duration

The duration sets the time period that the trigger output is active. The duration can be set between 10 ms (milliseconds) and 3 minutes. Alternatively, the duration can be set to 'Infin.' that keeps the trigger active while the 'sense' condition prevails.



To adjust the *Duration* setting:

- From the *Trigger Setup* menu, use the UP or DOWN keys to highlight *Duration*.
- Use the LEFT or RIGHT keys to change the setting.
- Once the setting is correct, use the UP or DOWN keys to highlight the next setting to be adjusted or highlight EXIT to save and return to the *Main Menu*.

Note: 10 ms and 100 ms pulses are also generated when the trigger becomes inactive, allowing pulse triggered power amplifiers to On/Off.

Care and Maintenance

The SSP80/100 processors have been designed for indoor use only. Under no circumstances should the surround sound processor be allowed to get wet. The only maintenance required is to ensure the unit is kept clean.

Cleaning

Halcro takes no responsibility for any damage caused through careless or improper cleaning techniques.

WARNING: Never use flammable products when cleaning the SSP80/100

Please read the following procedures very carefully

- Before cleaning, turn the power to the unit off at the mains.
- Use only extremely soft cloths.
- Use a soft dry cloth to remove any dust.
- Add 0.5 fl oz (15 ml) of very mild household dishwashing detergent to a 1 gallon (4 liter) bucket of tepid water.
- Immerse the soft cloth in the bucket of water and then wring the cloth out thoroughly until the cloth is nearly dry.
- Never clean any electrical fittings or terminals with the damp cloth.
- After using the slightly damp cloth, wipe over the surfaces with a soft dry cloth, and then allow the amplifier to air for at least one hour prior to turning the power back on.

If you are unsure about the cleaning of the SSP80/100 and require more information, please ask your dealer or contact Halcro at:

service@halcro.com

WARNING: The Halcro SSP80/100 processors contain no user serviceable parts. Please do not attempt to open the unit as this will void the warranty and may expose you to dangerous voltages.

For all service requirements please contact your dealer.

Troubleshooting

Symptom	Remedy
No sound	Power cord is disconnected or power is OFF. Check if the Standby/On LED (3) is illuminated. An input is selected but no source is connected. The source setup may be incorrect. Check the digital input connections and digital input assignments in *Source Setup* – digital input. The input selected has no signal (for example, because the tuner is not on, or there is no disc in the CD player or the tape recorder has no tape running). If the display indicates an incoming digital signal, check the output connections. If the source is digital but the display indicates Analog, check the digital input connections and digital Input setting in *Source Setup.* Faulty connections. Try connecting the source to other input connectors. The internal fuse has blown. Contact your dealer or Halcro at service@halcro.com
Sound missing in one or more channels	Interconnect cable defective: the interconnect cable is making poor contact or not connected at all. Check and if necessary unplug and re-plug the cable or cables. Check speaker settings (size & level setup) in *Speaker Setup.* Check mode settings as all speakers are not used in some modes.
Buzz or hum	Interconnect cable defective or partially out of its socket. Ground loop. Disconnect and re-connect one source at a time.

Symptom	Remedy
Hum in tape playback	The tape deck is too close to the power amplifier. Plugs are making poor contact with sockets.
Sluggish response to commands	Video source has a bad video signal.
No picture	Power cord is disconnected or power is OFF. Check if the Standby/On LED (3) is illuminated. Faulty connections. Try connecting the source to other input connectors. The internal fuse has blown. Contact your dealer or Halcro at service@halcro.com Check “Source Setup” for correct video source selection. Check “Scaler Setup” if you are using component video outputs, and confirm that your display device can show the selected formats.

Service and Warranty Information

Overview

All Halcro products are designed and built to world-class standards of quality, reliability, and performance. Since so much care has gone into our products, we are able to offer a strong warranty that protects your investment in Halcro products for years to come. It is our expressed desire that your Halcro products work flawlessly and that you enjoy music, movies, and audio/video entertainment without interruption or compromise to performance.

It is the goal of Halcro Customer Service to provide efficient and timely service to Halcro owners and to our dealers. In the event of a technical problem or failure, we will work with you and your authorized Halcro dealer to minimize down time and provide expedient service to remedy the situation. We suggest that your Halcro dealer be the first point of contact should you experience any problems. Solutions are often simple and can be handled in the field. Please do not attempt to open up sealed compartments on any Halcro products.

Product warranty

Halcro warrants the SSP80 surround sound processor & preamplifier to be free from defects in materials and workmanship for a period of three years from the original date of purchase. The SSP100 surround sound processor & preamplifier is warranted to be free from defects in materials and workmanship for a period of four years from the original date of purchase. During the warranty period, Halcro will remedy all such defects without charge for parts or labor.

Exclusions to the warranty

This warranty does not extend to damage resulting from improper installation or setup, misuse, neglect, or abuse. Changes in the appearance of the product resulting from normal wear and tear, moisture, or atmospheric conditions are not warranted. The warranty shall be void and of no effect if any of the following occur:

- the defect has resulted from improper, unreasonable, or negligent use
- the defect is a result of accident, tampering, alteration, or modification
- the defect is a result of improper installation or setup by a third party
- the unit's serial number has been removed, altered, or made illegible
- Halcro is not liable for incidental or consequential damage of any kind
- Halcro does not warrant system design or installation

Transferability

Transferability means that the warranty stays with the product from the date of original purchase through the full warranty period, regardless of who owns the product.

The Halcro warranty is transferable, providing that the original sales receipt or proof of purchase is supplied to both subsequent owners and to Halcro when ownership changes.

Warranty verification

It is the owner's responsibility to show proof or purchase verifying that the unit to be serviced is within the warranty period. Proof of purchase options include:

- copy of sales receipt showing name of original owner, dealer, and purchase date
- copy of credit card voucher or cancelled check accompanied by owner's record of purchase date and serial number

Warranty registration

While not required for service, we request that you register your Halcro product as soon as you purchase it. Please use the Halcro Product Warranty Registration form that is provided, or request a copy from your Halcro dealer.

If service is required

We suggest that you work with your authorized Halcro dealer when the need for technical service, training, or applications advice arises. If your Halcro product requires service or repair, it should be shipped to Halcro or your authorized Halcro dealer to be returned to the factory for service. To qualify for free warranty service, the following conditions must be met:

- the unit must be returned to Halcro or its authorized repair center in the original packing materials

  This will ensure the safety of the equipment. If you have misplaced or damaged the original packaging, you can purchase new packaging through your dealer or directly from Halcro

- the unit must be accompanied by a copy of the Halcro Product Warranty Registration card and the original sales receipt
- shipments to Halcro must include a Return Authorization number

  To obtain this authorization, please ask your dealer or E-mail Halcro directly at: service@halcro.com

- Halcro cannot be responsible for any damage caused to your equipment during shipping due to improper packaging

  If the packaging material needs to be replaced on its arrival at the factory, the owner will be informed of the replacement cost.

Transportation of products

Halcro pays freight one way to return product once warranty repair is completed. Halcro requests prepaid shipment to the factory or to a designated repair center or service agency. We are not equipped to accept freight collect shipments.

Halcro is not liable for freight, courier, or other charges incurred in transporting a unit to and from a dealership, service center, or the factory unless written approval and instructions are issued in advance. Such documents must include the Halcro Return Authorization number, a detailed description of the situation, and signature of authorized Halcro representative.

Freight damage claims

If a unit being returned to Halcro is damaged in shipment, Halcro will contact the carrier for inspection. The carrier will contact the shipper regarding the claim. Halcro is not liable for damage or delays caused in shipment to or from Halcro facilities.

If you have moved

In the event that you have changed locations since your original Halcro purchase, we will happily direct you to your nearest authorized Halcro dealer upon request.

Thank you for choosing Halcro!

We trust that you will enjoy the performance of your Halcro equipment long past the warranty period. Thank you for choosing Halcro!

Appendix — Technical Information

Technical data

Connections	Input Levels	Output Levels	Bandwidth	THD	S/N	Z in	Z out
AUDIO							
Digital Audio	-	-	20 Hz – 42 kHz	<0.002%	>100 dB	75 ohms	75 ohms
Analog Audio	-	-	20 Hz – 22 kHz	<0.002%	>95 dB	17 kohms	120 ohms
Stereo Analog	3 Vrms	-	-	-	-	-	-
7.1 Unbalanced Audio	8 Vrms	8 Vrms	5 Hz – 200 kHz, -3 dB 20 Hz – 20 kHz, -0.05 dB	<0.002%	>100 dB	17 kohms	120 ohms
7.1 Balanced Audio (SSP100)	16 Vrms*	16 Vrms	5 Hz – 200 kHz, -3 dB 20 Hz – 20 kHz, -0.05 dB	<0.002%	>100 dB	25 kohms per leg	56 ohms per leg
Stereo Balanced (SSP80)	16 Vrms*	2 Vrms	5 Hz – 200 kHz, -3 dB 20 Hz – 20 kHz, -0.05 dB	<0.002%	>100 dB	25 kohms per leg	56 ohms per leg
Special Outputs	-	8 Vrms	20 Hz – 22 kHz	<0.002%	>95 dB	17 kohms	120 ohms
Record	-	-	20 Hz – 22 kHz	<0.002%	>95 dB	17 kohms	470 ohms
Zone	-	8 Vrms	20 Hz – 22 kHz	<0.002%	>95 dB	17 kohms	120 ohms
VIDEO							
HDMI	-	-	5 GHz	-	-	-	-
Composite Video	-	-	<10 Hz - >30 MHz Mon 8 MHz Mon OSD	-	>67 dB	75 ohms	75 ohms
S-Video	-	-	<10 Hz - >30 MHz Mon 8 MHz Mon OSD	-	>69 dB	75 ohms	75 ohms
Component Video	-	-	>100 MHz	-	>79 dB	75 ohms	75 ohms

*8 Vrms when routed through DSP

Mode tables

The information in these tables assumes the full speaker setup is used. If some speakers are missing, the modes may not be available or some automatic down-mixing may occur.

For example, if no center speaker is set up, center information is automatically directed to the main speakers and a phantom center image is created. Also, if rear speakers are not present in speaker configuration, none of the enhanced surround (6.1 and 7.1) processing modes are available.

Mode	Description
Direct	No processing is applied, stream is passed unprocessed
Mono	Generates mono down-mix from any source
Stereo	Direct mode for stereo signals or stereo down-mix from multi-channel sources
Stereo 96	96/24 mode for analog signal. Tone controls & bass management not available
Dolby Pro Logic	Processing to create surround sound field from stereo material. Surround channel is mono (left and right surround channels are identical).
Dolby Pro Logic II	As ProLogic, but with stereo surround channels • PLII Movie for two channel movie materials • PLII Music for two channel music materials
Dolby Pro Logic IIx	As for ProLogic II, but with rear channels
Dolby Digital EX	Used to process rear channels from Dolby Digital
DTS Neo:6	DTS processing modes to create 6.1/7.1 channel output • Neo:6 for DTS 3/2, same as Matrix • Neo:6 Cinema for two channel movie materials • Neo:6 Music for two channel music materials
DTS-ES Matrix	Used to process DTS-ES matrix stream. Processing is same as Neo:6
THX Cinema	Depends on source input re-equalization for front speakers
THX Ultra 2 Cinema	Source dependent. • Re-equalization for Front speakers • Timbre-Match • Adaptive Decorrelation

Mode	Description
THX Music	Source dependant • Timbre-Match • Adaptive Decorrelation • ASA – Adaptive Speaker Array processing
THX Games	Source dependant • Timbre-Match • ASA – Adaptive Speaker Array processing
THX Surround EX	Source dependant • Re-equalization for Front speakers • Re-equalization for Surround Back speakers • Timbre-Match
Music Modes	Room effects for music listening, such as: • Natural • Party • Club • Concert

Mode	Active Outputs
Direct	Stream channels
Mono	Center
Stereo / Stereo 96	Front Left, Front Right
Pro Logic / Pro Logic II	Left Front, Right Front, Center Left Surround, Right Surround
Music Modes	
Neo:6 Cinema Movie	Left Front, Right Front, Center Left Surround, Right Surround, Left Rear, Right Rear
DTS Neo:6	
DTS-ES Matrix	
Dolby Digital EX	
Pro Logic IIx	
THX Ultra 2	

Note: The subwoofer is available if the incoming signal is ".1", or if small speakers or extended bass is selected from the speaker setup.

Abbreviations and Units

Abbreviations

The following abbreviations appear in this Owner's Manual:

Abbreviation	Meaning
AC	Alternating current
AES/EBU	Audio Engineering Society/ European Broadcasting Union; a digital audio transfer standard
ASA	Advanced speaker array
BGC	Boundary gain compensation
CD	Compact disc
DSP	Digital signal processing
DTS	Digital theatre systems
DVD	Digital video disc
EMC	Electromagnetic compatibility
FCC	Federal communications commission
HDMI™	High definition multimedia interface (a trademark of HDMI™ Licensing LLC)

Abbreviation	Meaning
HRAS	Halcro Reliability Assurance Service
LFE	Low frequency effects
LVD	Low voltage directive
MCA	Multi-channel audio amplifier
NTSC	National television system committee
OSD	On screen display
PAL	Phase alteration line
SSP	Surround Sound Processor
TFT	Thin film transistor
USB	Universal serial bus
VFD	Vacuum fluorescent display

Units

The following abbreviations of units appear in this Operator's Manual:

Unit	Meaning
A	Amps
cm	Centimeters
fl oz	Fluid ounces
ft	Feet
in	Inches
kohm	10^3 ohm
m	Meter
ml	Milliliters
V	Volts

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Copyright and acknowledgements

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