



# BEDIENUNGSANLEITUNG OWNERS MANUAL

**SP-N1200**

1 Channel Amplifier

**SP-N2300**

2 Channel Amplifier

**SP-N4400**

4 Channel Amplifier

**SP-N5500**

5 Channel Amplifier

# CONTENTS

<b>CONNECTIONS &amp; CONTROLS</b> .....	<b>24-35</b>
FRONT + REAR PANEL SP-N1200 .....	24-25
FRONT + REAR PANEL SP-N2300 .....	26-27
FRONT + REAR PANEL SP-N4400 .....	28-31
FRONT + REAR PANEL SP-N5500 .....	32-35
<b>NOTES BEFORE INSTALLATION</b> .....	<b>36</b>
INSTALLATION .....	36
MAIN POWER CABLE CROSS SECTION .....	36
RCA INTERCONNECTS .....	36
MINIMUM SPEAKER IMPEDANCE .....	36
<b>AMPLIFIER MOUNTING</b> .....	<b>37</b>
MOUNTING LOCATION .....	37
MOUNTING .....	37
<b>CABLE ROUTING AND CONNECTION</b> .....	<b>38</b>
RCA INTERCONNECTS AND REMOTE CABLE .....	38
HIGH-LEVEL INPUT.....	38
LOUDSPEAKER WIRE .....	38
MAIN POWER CABLES.....	38
FUNCTIONAL TEST.....	38
<b>ADJUSTMENT OF THE ELECTRONIC CROSSOVER</b> .....	<b>39</b>
OPERATION MODE SWITCH.....	39
HIGHPASS CROSSOVER FREQUENCY .....	39
BANDPASS CROSSOVER FREQUENCY.....	39
INPUT GAIN CONTROL.....	40
BASS BOOST .....	40
SUBSONIC HIGHPASS .....	40
BASS LEVEL REMOTE CONTROL.....	40
<b>TECHNICAL SPECIFICATIONS</b> .....	<b>42-43</b>
<b>LIMITED WARRANTY</b> .....	<b>44</b>
WARRANTY LIMITATIONS .....	44
WARRANTY CARD .....	46

Congratulations!

And thank you for choosing this SPECTRON car audio power amplifier! You own a high quality amplifier that was manufactured with advanced assembly methods, giving you a long service life, high power output and good sound quality.

To maximize the performance of this amplifier, we recommend that you acquaint yourself thoroughly with all technical features and all implemented control functions. Read this manual carefully, before you attempt the installation of this amp. Please retain this manual, the original packing and your purchasing / installation receipts for future reference.

## CONNECTIONS & CONTROLS

### FRONT & REAR PANEL SP-N1200

#### 1 HIGH LEVEL INPUT PORT

High level speaker input to connect loudspeaker output signal if the headunit does not provide dedicated RCA line outs to drive amplifiers

#### 2 RCA LINE OUT

Stereo RCA line outputs for "daisy-chain" connection of another amplifier

#### 3 RCA LINE INPUTS

Stereo RCA inputs for connection with the RCA line-out signal of the head-unit

#### 4 INPUT GAIN CONTROL

Input gain potentiometer to control and match the line-out signal of the headunit to the amplifier input

#### 5 HIGHPASS CONTROL

Control potentiometer for the highpass crossover frequency – adjustable from 10 to 500 Hz

#### 6 OPERATION MODE SWITCH

Slide switch to select operation of the electronic crossover – to process the signals with 12dB/oct. steepness and either highpass (HPF), bandpass (BPF) or fullrange mode

#### 7 LOWPASS CONTROL

Control potentiometer for the lowpass crossover frequency – adjustable from 50 to 500 Hz

#### 8 REMOTE PORT

Remote port to connect the cable of the bass level remote control to the amplifier

#### 9 SPEAKER OUTPUT TERMINAL

Output terminal to connect the loudspeaker cables from the speakers to the amplifier

#### 10 POWER LED

Green "Power" LED – indicating normal function of the amplifier when turned on

#### 11 PROTECT LED

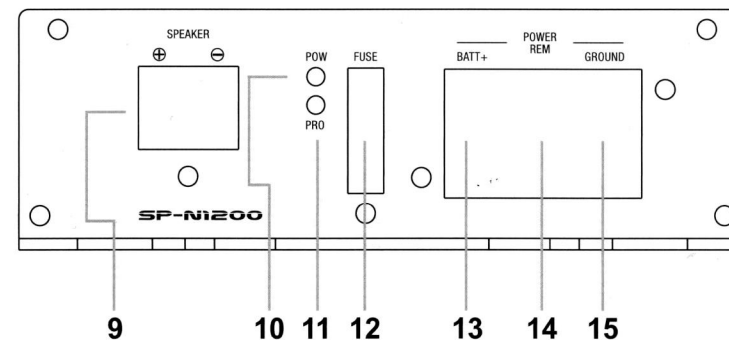
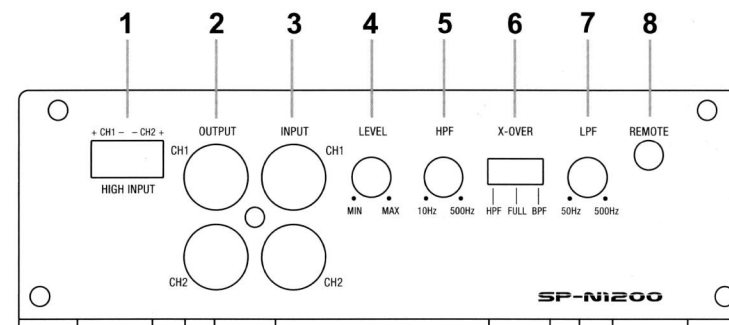
Red "Protect" LED – indicating faulty speaker connections, over heating of amplifier electronics or general malfunction of the amplifier

#### 12 FUSE

ATC fuse for protection of the amplifier electronics against overload or wrong operation

#### 13 "BATT+" POWER INPUT TERMINAL

Terminal to connect the amplifier to the positive +12V voltage of the car battery



#### 14 "REM" INPUT TERMINAL

Terminal to connect the amplifier to the automatic (remote) turn-on / turn-off lead of the head unit

#### 15 "GND" POWER INPUT TERMINAL

Terminal to connect the amplifier to the negative or chassis ground of the vehicle

# CONNECTIONS & CONTROLS

## FRONT & REAR PANEL SP-N2300

### 1 HIGH LEVEL INPUT PORT

High level speaker input to connect loudspeaker output signal if the headunit does not provide dedicated RCA line outs to drive amplifiers

### 2 RCA LINE OUT

Stereo RCA line outputs for "daisy-chain" connection of another amplifier

### 3 RCA LINE INPUTS

Stereo RCA inputs for connection with the RCA line-out signal of the head-unit

### 4 INPUT GAIN CONTROL

Input gain potentiometer to control and match the line-out signal of the headunit to the amplifier input

### 5 HIGHPASS CONTROL

Control potentiometer for the highpass crossover frequency – adjustable from 10 to 500 Hz

### 6 OPERATION MODE SWITCH

Slide switch to select operation of the electronic crossover – to process the signals with 12dB/oct. steepness and either highpass (HPF), bandpass (BPF) or fullrange mode

### 7 LOWPASS CONTROL

Control potentiometer for the lowpass crossover frequency – adjustable from 50 to 500 Hz

### 8 SPEAKER OUTPUT TERMINAL

Output terminal to connect the loudspeaker cables from the speakers to the amplifier

### 9 POWER LED

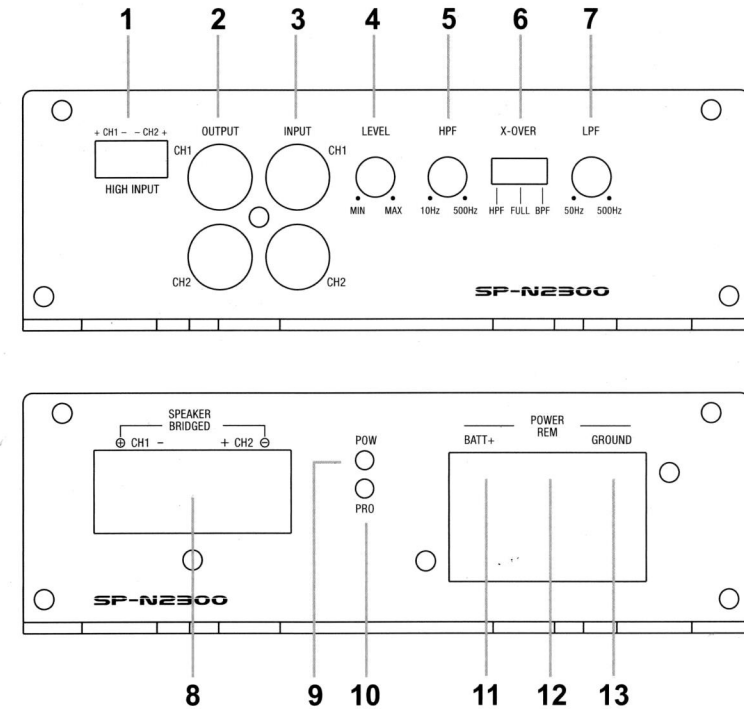
Green "Power" LED – indicating normal function of the amplifier when turned on

### 10 PROTECT LED

Red "Protect" LED – indicating faulty speaker connections, over heating of amplifier electronics or general malfunction of the amplifier

### 11 "BATT+" POWER INPUT TERMINAL

Terminal to connect the amplifier to the positive +12V voltage of the car battery



### 12 "REM" INPUT TERMINAL

Terminal to connect the amplifier to the automatic (remote) turn-on / turn-off lead of the head unit

### 13 "GND" POWER INPUT TERMINAL

Terminal to connect the amplifier to the negative or chassis ground of the vehicle

# CONNECTIONS & CONTROLS

## FRONT & REAR PANEL SP-N4400

### 1 RCA LINE INPUTS FRONT

Stereo RCA inputs for front channels and connection to the RCA line-out signal of the head-unit

### 2 OPERATION MODE SWITCH FRONT

Slide switch to select operation of the electronic crossover – to process the signals with 12dB/oct. steepness and either highpass (HPF), lowpass (LPF) or fullrange mode

### 3 HIGHPASS CONTROL FRONT

Control potentiometer for the highpass crossover frequency – adjustable from 10 to 500 Hz

### 4 LOWPASS CONTROL FRONT

Control potentiometer for the lowpass crossover frequency – adjustable from 50 to 500 Hz

### 5 LOWPASS CONTROL REAR

Control potentiometer for the lowpass crossover frequency – adjustable from 50 to 500 Hz

### 6 HIGHPASS CONTROL REAR

Control potentiometer for the highpass crossover frequency – adjustable from 10 to 500 Hz

### 7 OPERATION MODE SWITCH REAR

Slide switch to select operation of the electronic crossover – to process the signals with 12dB/oct. steepness and either highpass (HPF), lowpass (LPF) or fullrange mode

### 8 RCA LINE INPUTS REAR

Stereo RCA inputs for rear channels and connection to the RCA line-out signal of the head-unit

### 9 HIGH LEVEL INPUT PORT FRONT

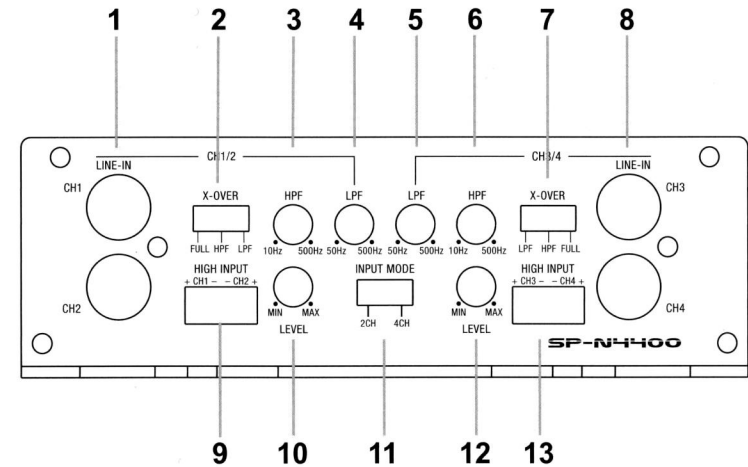
High level speaker input to connect loudspeaker output signal if the headunit does not provide dedicated RCA line outs to drive amplifiers

### 10 INPUT GAIN CONTROL FRONT

Input gain potentiometer to control and match the line-out signal of the headunit to the amplifier input

### 11 INPUT MODE SWITCH

“2 CH” to route the signal from CH1+2 internally to CH3+4. When using “4 CH”, all inputs need its own signal.



### 12 INPUT GAIN CONTROL REAR

Input gain potentiometer to control and match the line-out signal of the headunit to the amplifier input

### 13 HIGH LEVEL INPUT PORT REAR

High level speaker input to connect loudspeaker output signal if the headunit does not provide dedicated RCA line outs to drive amplifiers

## CONNECTIONS & CONTROLS

### 14 SPEAKER OUTPUT TERMINAL

Output terminal to connect the loudspeaker cables from the speakers to the amplifier

### 15 POWER LED

Green "Power" LED – indicating normal function of the amplifier when turned on

### 16 PROTECT LED

Red "Protect" LED – indicating faulty speaker connections, over heating of amplifier electronics or general malfunction of the amplifier

### 17 "BATT+" POWER INPUT TERMINAL

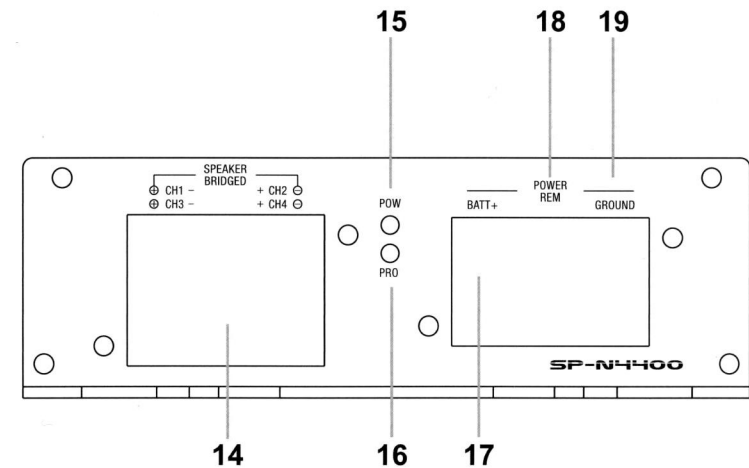
Terminal to connect the amplifier to the positive +12V voltage of the car battery

### 18 "REM" INPUT TERMINAL

Terminal to connect the amplifier to the automatic (remote) turn-on / turn-off lead of the head unit

### 19 "GND" POWER INPUT TERMINAL

Terminal to connect the amplifier to the negative or chassis ground of the vehicle



## CONNECTIONS & CONTROLS

### FRONT & REAR PANEL SP-N5500

#### 1 RCA LINE INPUTS FRONT

Stereo RCA inputs for front channels and connection to the RCA line-out signal of the head-unit

#### 2 RCA LINE INPUTS REAR

Stereo RCA inputs for rear channels and connection to the RCA line-out signal of the head-unit

#### 3 RCA LINE INPUTS SUBWOOFER

Stereo RCA inputs for subwoofer channels and connection to the RCA line-out signal of the head-unit

#### 4 REMOTE PORT

Remote port to connect the cable of the bass level remote control to the amplifier

#### 5 HIGHPASS CONTROL FRONT

Control potentiometer for the highpass crossover frequency – adjustable from 10 to 500 Hz

#### 6 INPUT GAIN CONTROL FRONT

Input gain potentiometer to control and match the line-out signal of the headunit to the amplifier input

#### 7 INPUT GAIN CONTROL REAR

Input gain potentiometer to control and match the line-out signal of the headunit to the amplifier input

#### 8 HIGHPASS CONTROL REAR

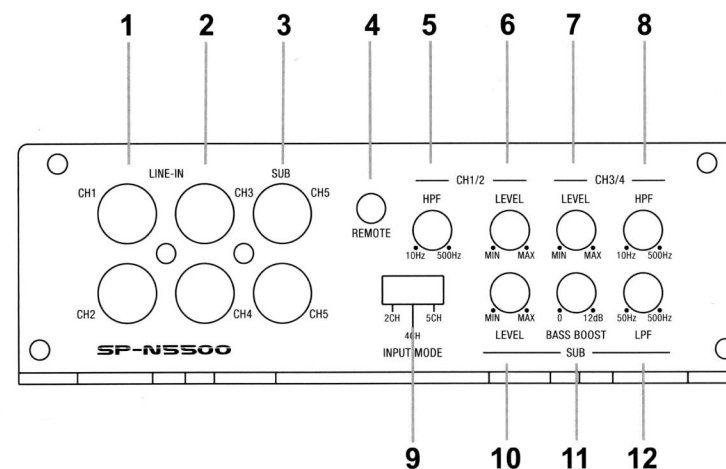
Control potentiometer for the highpass crossover frequency – adjustable from 10 to 500 Hz

#### 9 INPUT MODE SWITCH

Use "2 CH" to route the signal from CH1+2 internally to CH3+4. Use "4 CH", to generate the subwoofer signal out of the four CH1-4 inputs. When using "5 CH", all inputs need its own signal.

#### 10 INPUT GAIN CONTROL SUBWOOFER

Input gain potentiometer to control and match the line-out signal of the headunit to the amplifier input



#### 11 BASS BOOST

Bass Boost to increase the bass level @ 45 Hz by 0 to +12 dB

#### 12 LOWPASS CONTROL SUB

Control potentiometer for the lowpass crossover frequency – adjustable from 50 to 500 Hz

## CONNECTIONS & CONTROLS

### 13 SPEAKER OUTPUT TERMINAL

Output terminal to connect the loudspeaker cables from the speakers to the amplifier

### 14 POWER LED

Green "Power" LED – indicating normal function of the amplifier when turned on

### 15 PROTECT LED

Red "Protect" LED – indicating faulty speaker connections, over heating of amplifier electronics or general malfunction of the amplifier

### 16 "BATT+" POWER INPUT TERMINAL

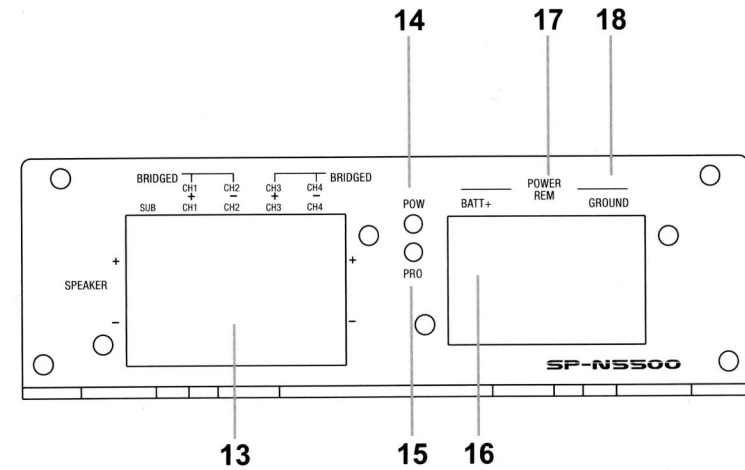
Terminal to connect the amplifier to the positive +12V voltage of the car battery

### 17 "REM" INPUT TERMINAL

Terminal to connect the amplifier to the automatic (remote) turn-on / turn-off lead of the head unit

### 18 "GND" POWER INPUT TERMINAL

Terminal to connect the amplifier to the negative or chassis ground of the vehicle





### INSTALLATION

To install this SPECTRON amplifier properly, power cables and other additional accessories are required. These accessories are not part of the set content and need to be purchased separately. Ask your SPECTRON dealer for assistance.

To obtain best performance and power output from your amplifier, it is recommended to use high quality accessory material only. For trouble free performance also consider a safe mounting of the amplifier in your own interest. Sufficient ventilation, convenient accessibility of all the side panel controls are further prerequisites that should be thought of, before any installation work is attempted.

Please note that – due to potential interference problems with existing car electronics - the routing of the RCA signal cables and the chassis ground connection of your amplifier are important if not crucial, for a noise free and stable performance of this amplifier.

### MAIN POWER CABLE CROSS SECTION

The main power cable cross-section used for this SPECTRON amplifier should not be less than 10mm<sup>2</sup> for 5m of total length. If you plan on to use the amp in bridged mode driving a subwoofer, or if two amplifiers are part of your system install, the minimum recommended power cable cross section for safe operation is 20 mm<sup>2</sup>. The cable to chassis ground must have the same cross section like the main +12V cable to be used.

These recommendations guarantee trouble free operation of your amplifier(s), giving you full power output and lowest THD. Using main power cables with smaller cross sections may result in over-heating and early shutdown of internal amplifier electronics and elevated distortion.

### RCA INTERCONNECTS

Use at least double shielded RCA interconnect cables. Keep in mind, that the RCA interconnects should always be kept far away from any potential sources of electrical interferences, i.e. try to avoid crossing of main wire harnesses that are part of electronic management systems.

### MINIMUM SPEAKER IMPEDANCE

The internal amplifying circuitry and the heat dissipation capacity of this amplifier's heatsink has been designed to cope with 2 ohm impedance loads in stereo mode or 4 ohms in bridge mode. Therefore, you can drive 4 to 2 ohm satellite speaker systems – or 4 ohm subwoofer systems in bridged operation mode

SP-N1200 @ 2 ohms mono

SP-N2300 @ 2 ohms stereo / 4 ohms bridged

SP-N4400 @ 2 ohms stereo / 4 ohms bridged

SP-N5500 @ 2 ohms stereo / 4 ohms bridged + 2 ohms subwoofer

### MOUNTING LOCATION

Check the suitability of your preferred amplifier location carefully, before you start any installation work. Try to select a place where you can be sure nothing gets damaged behind or below the panel, when holes for the amplifier mounting are drilled. Be aware that once the amp has been bolted in place, there should be a clearance of at least 5 cm to all sides, which is required for cooling but also to gain access to the control panel for the adjustment of the electronic crossover.

**Attention! For your own safety, disconnect the negative (GND) battery terminal and remove the main fuse of the 12V main power cable, before you start any wiring work!**

### MOUNTING

Once the location where the amplifier allows safe mounting has been found, use the amp itself as template to mark the mounting holes with pencil or felt-tip marker. Pilot-drill the holes using a 2 mm or 2.5 mm drill bit. The amplifier must be mounted isolated from the vehicle's chassis ground or any other metal parts of the vehicle, to avoid ground loops (that cause a loud low frequency hum).

Bolt the unit in place with the supplied self tapping screws.

### RCA INTERCONNECTS AND REMOTE CABLE

Run the RCA interconnects and the remote lead from the head-unit to the amplifier. Note that RCA interconnects must be routed separately from the main +12V power cable. Connect the remote (turn on/turn off) lead to the REM input terminal of the amplifier and to the amp Remote output lead of your headunit. Now plug in the RCA interconnects to the line-out leads of the head-unit and to the RCA inputs of the amplifier. Pay attention: The left RCA plug (black) out must be connected to CH1 input, the right RCA plug (red) must be connected to CH2 input.

For the SP-N1200 and SP-N5500 amplifier, mount the bass level remote control in the cockpit, within reach of the driver's seat and route the cable to the amplifier. Insert the plug of the remote wire into the Remote port located on the side panel of the amp.

### USING THE HIGH-LEVEL INPUT (EXCEPT SP-N5500)

Connect the speaker cable from the radio to the provided input adapter. Pay attention to correct polarity to avoid phase cancellations. When using the high-level input, the amplifier automatically switches on using the so-called DC offset of the radio amplifier. Do not connect a separate remote cable!

### LOUDSPEAKER WIRE

Route the speaker cables from the component system crossovers or from the terminals of the coaxial speakers to the amplifier speaker terminal. Strip of the insulation, each wire should have 6 to 8 mm bare wire ends that need to be inserted to the terminal. Tighten up the terminal screws. Always maintain correct electrical polarity of speaker wires to the respective terminal („+“ to „+“; „-“ to „-“).

### MAIN POWER CABLES

Run the positive main power cable („+12 V“) directly from the positive terminal of the car battery to the amplifier. For protection of your car audio system against electrical short cuts and fire hazards, you must insert a fuse holder within 30cm of the positive pole battery clamp. The applicable fuse value must match to the limitations of your main power cable cross section and its purpose is to protect the vehicle from a shortcut of the +12V power cable to chassis ground!

Connect the ground cable to the ground terminal input of your amplifier and the other side of the cable to a clean and rust free ground point in your vehicle. A dedicated ground lug is recommended for best (low resistance) ground connection.

Keep the ground cable („-12V“) as short as possible. The ground power cable must have the same wire cross-section as the positive power cable in use. Tighten up both power input terminals, and double check for perfect fit.

### FUNCTIONAL TEST

Your amplifier should now indicate correct operation when the controller is switched on by the green power LED lighting up. If the red Protection LED is lit, your installation is faulty. Carefully review all previous installation instructions.

### OPERATION MODE SWITCH

The operation mode of the amplifier can be set over the operation mode switch "X-over". This setting must be matched with the speaker pair that is driven by the respective channel(s), BPF, HPF or FULL are possible settings.

If the speaker system driven by the corresponding channel pair is a component-, coaxial- or triaxial- type, select HPF (highpass filter). Else, if a subwoofer is connected, the operation mode switch must be set to LPF (lowpass filter) or BPF (bandpass filter), which is a combination of a lowpass and highpass filter. If the speaker system connected shall not receive a filtered signal, select FULL. Highpass or lowpass filtering helps the connected loudspeakers to work in the frequency bands they can reproduce best, by reducing mechanical excursion.

### HIGHPASS CROSSOVER FREQUENCY

For any kind of mid/high range speakers like coaxial or component sets, set the operation mode slide switch to HPF and proceed to adjust the "Highpass" or "High" potentiometer, to the x-over frequency that matches the size of the speakers connected. This setting is always a compromise and must be "played by ear", since either midbass reproduction or power handling will have to be sacrificed to a certain extent.

If the highpass crossover frequency is set too low, the speakers will be mechanically over-driven by low frequency volume levels. If the highpass frequency is set too high, too much mid/bass is cut off and the music will sound thin.

### BANDPASS CROSSOVER FREQUENCY

Set the operation mode switch "X-over" to the BPF position, to drive a subwoofer system connected to the amp. The bandpass crossover frequency should also be played by ear, i.e. since this crossover frequency point is mostly a matter of personal taste and also depends on the vehicle dimensions. A good rule of thumb would be to set the LPF around 60 to 90 Hz, as this will usually render best sonic results. In general, setting the lowpass crossover frequency point too low, will result in a bass that sounds very low but weak, whereas adjustment of the LPF frequency too high will result in a 'booming' bass as well as strongly reduced low end extension. After that, use the HPF highpass filter to cut off extreme low bass frequencies which lead to very high cone excursions but results in non-audible sound. We recommend to set the HPF between 20 – 35 Hz, depends on the subwoofer system.

### **INPUT GAIN CONTROL**

Before you proceed to adjust the input gain levels of the amp(s) mounted to your car, all tone controls (Bass, Mid, Treble, Loudness etc.) and the fader on the headunit must be set to their neutral or center positions.

Turn all input gain controls of the installed amplifiers counter-clockwise to their minimum positions and ALWAYS start with the channel pair that drives the subwoofer system first (where applicable).

Set the volume control of your head-unit to approximately  $\frac{3}{4}$  of full volume, while playing a dynamic track with good bass content. Slowly increase the input gain control of the channel pair driving the subwoofer(s), by turning the input "Level" potentiometer clockwise until you can just hear distortions to start. Reduce the main volume level of your head-unit to a medium listening level and continue to set the remaining input gain levels accordingly. Usually the sequence of the input gain adjustment procedure is > subwoofer > speakers in the front doors > speakers in the rear of the car.

### **BASS BOOST**

The bass boost potentiometer allows to increase the bass content of the music signal with a center frequency of 45 Hz. The maximum bass boost level is 12dB – thus careful adjustment of this potentiometer is mandatory, as the amp may be overdriven into clipping easily.

### **SUBSONIC HIGHPASS**

The SP-N1200 features a subsonic filter function. This function is always enabled; infrasonic signal content can be cut off from 10 to 500 Hz, with 12 dB/oct. This function can improve the power handling of smaller subwoofers where chassis dimensions is smaller than 10"/25cm, or the subsonic highpass does also help to deal with music playback that contains a good deal of ultra low frequency information by default. We recommend to set the HPF between 20 – 35 Hz, depends on the subwoofer system.

### **BASS LEVEL REMOTE CONTROL**

If you want to deploy and use the bass level remote control of the SP-N1200 or SP-N5500 amp, make sure to adjust the control knob of the remote control to its full volume (clockwise) position, before you adjust the input gain of your subwoofer amplifier.

# TECHNICAL SPECIFICATIONS

MODEL	SP-N1200	SP-N2300
<b>4 Ohms max / 14.4V (THD&lt;=0.5%)</b> All channels driven simultaneously	200 W x 1	150 W x 2
<b>2 Ohms max / 14.4V (THD&lt;=0.5%)</b> All channels driven simultaneously	300 W x 1	220 W x 2
<b>4 OHMS RMS BRIDGED/14.4V (THD&lt;=0.1%)</b> All channels driven simultaneously	n.a.	440 W x 1
<b>DAMPING FACTOR</b> All channels @ 4ohms/100Hz	> 100	> 100
<b>SIGNAL-TO-NOISE RATIO</b> (A-weighted – all channels)	> 90 dB	> 90 dB
<b>FREQUENCY RESPONSE</b> (all channels, x-over set to full range op-mode, -1dB)	10 Hz-45 kHz	10 Hz-45 kHz
<b>INPUT SENSITIVITY</b> (all channels)	0.2 – 6 V	0.2 – 6 V
<b>INPUT IMPEDANCE</b>	20 K Ohms	20 K Ohms
<b>INTEGRATED ELECTRONIC X-OVER</b>		
X-over slope rates	12 dB/oct.	12 dB/oct.
Variable highpass freq	10 – 500 Hz	10 – 500 Hz
Variable lowpass freq	50 – 500 Hz	50 – 500 Hz
<b>DIMENSIONS (L X H X W MM)</b>	225 x 45 x 135	255 x 45 x 135

SP-N4400	SP-N5500
100 W x 4	80 W x 4 + 200 W x 1
125W x 4	115 W x 4 + 300 W x 1
250 W x 2	200 W x 2 + n.a.
> 100	> 100
> 90 dB	> 90 dB
10 Hz-45 kHz	10 Hz-45 kHz
0.2 – 6 V	0.2 – 6 V
20 K Ohms	20 K Ohms
<b>INTEGRATED ELECTRONIC X-OVER</b>	
12 dB/oct.	12 dB/oct.
10 – 500 Hz	10 – 500 Hz
50 – 500 Hz	50 – 500 Hz Sub
225 x 45 x 135	325 x 45 x 135

## LIMITED WARRANTY

Dear customer,

Please keep the original packing, the sales receipt and carefully read the warranty specifications stated below.

Should this SPECTRON amplifier require warranty service, please return it to the retailer from whom it was purchased, or the distributor of this brand in your country. This amplifier is fully warranted against defective materials or workmanship for a period of two years from date of purchase at retail, provided to the original purchaser (non transferrable). Warranty work will not be carried out unless the warranty certificate is presented fully completed with serial number, purchaser's address, purchasing date and dealer stamp together with the original sales slip.

### WARRANTY LIMITATIONS

This warranty does not cover any damage due to:

1. Unauthorized or unapproved installation, incorrect audio or mains connection(s).
2. Exposure to excessive humidity, fluids, sun rays or excessive dirt or dust.
3. Accidents or abuse, unauthorized repair attempts and modifications not explicitly authorized by the manufacturer.

This warranty is limited to the repair or the replacement of the defective product at the manufacturer's option and does not include any other form of damage, whether incidental, consequential or otherwise. The warranty does not cover any transport costs or damages caused by transport or shipment of the product.

## GARANTIE BESTIMMUNGEN

Sehr geehrter Kunde, sehr geehrte Kundin,

Wir bitten Sie, die Originalverpackung dieser Endstufe für einen allfälligen Transport aufzuheben und die untenstehenden Garantie-Bestimmungen genau durchzulesen.

Sollten Sie für Ihren SPECTRON Verstärker Garantieleistungen beanspruchen, wenden Sie sich bitte direkt an den Händler bei welchem das Gerät gekauft wurde oder aber dem Landesvertrieb dieser Marke. Der Hersteller gewährt auf diesen Verstärker für Material- und Herstellungsfehlern zwei Jahre Garantie an den ursprünglichen Käufer, gültig ab Kaufdatum im Fachhandel. Garantie-Ansprüche können nur mit einer korrekt und vollständig ausgefüllten Garantie-Karte zusammen mit dem Original-Kaufbeleg geltend gemacht werden.

### GARANTIE EINSCHRÄNKUNGEN

Nicht unter Garantie fallen Schäden infolge von:

1. nicht-autorisierte bzw. nicht vom autorisierten Händler/Installateur geprüfem Selbst-Einbau oder inkorrekten Audio- und/oder Stromanschlüssen.
2. schädlicher Einwirkung von Feuchtigkeit, Flüssigkeiten, Hitze, Sonneneinstrahlung oder übermässiger Verschmutzung.
3. mechanischer Beschädigung durch Unfall, Stoss oder Fall; Schäden durch nicht autorisierte Reparaturversuche oder nicht durch den Hersteller ausdrücklich autorisierte Modifikationen.

Die Garantie dieses Produkts bleibt in jedem Fall auf die Reparatur bzw. den Ersatz (Entscheidung beim Hersteller) des jeweiligen SPECTRON Produkts beschränkt. Schäden durch unsachgemässe Verpackung und daraus resultierende Transportschäden werden durch diese Garantie nicht abgedeckt. Jeder über diese Garantie-Erklärung hinausgehende Anspruch und jede Haftung für direkte oder indirekte Folgeschäden werden ausdrücklich abgelehnt.



E24 10R-05 12589

EU Legal Representative: ACR S & V GmbH · Industriestr. 35 · D-79787 Lauchringen · Germany

# WARRANTY CARD / GARANTIE-KARTE

LIMITED WARRANTY: 24 MONTHS

Model name:  SP-N1200  SP-N2300  SP-N4400  SP-N5500

Date of purchase / Kaufdatum: \_\_\_\_\_

Your name / Ihr Name: \_\_\_\_\_

Your address / Ihre Adresse: \_\_\_\_\_

City / Stadt: \_\_\_\_\_

State: \_\_\_\_\_ ZIP or Postal Code / PLZ: \_\_\_\_\_

Country / Land: \_\_\_\_\_

Händlerstempel / Dealer's stamp: