Accuphase

STEREO CONTROL CENTER

C-2120

- AAVA volume control for high performance and outstanding sound
- Separate power transformers for left and right channels
- Selectable preamp gain
- Fully modular construction with individual left/right amplifier units on motherboard
- Logic-controlled relays for shortest signal paths
- Independent phase selection for each input position
- Tone controls designed for optimum sound quality
- Option board slots provide additional versatility for digital input handling or analog record playback

The shape of the AC inlet and plug of the supplied power cord depends on the voltage rating and destination country.

Digital component: DAC-40

Internal DIP switches control MC input impedance.

Signal paths: Separate power transformers for left and right channels

Amplifier units on motherboard: Fully modular construction with individual left/right AAVA volume control for high performance and outstanding sound

Independent phase selection for each input position: Logic-controlled relays for shortest signal paths

Tone controls: Designed for optimum sound quality

Option board slots: Provide additional versatility for digital input handling or analog record playback
Sound quality and expandability taken to the next level — AAVA volume control for impeccable sonic performance. Modular design of AAVA and other amplifier sections realized in a dual mono construction with separate power supplies. Preamplifieroverall gain selection setting and phase selection settings for each input position stored in memory. Numeric indication of volume level. Slots for optional digital input boards with input selector and sampling frequency indication. Phono equalizer board allows playback of analog records with high sound quality.

Since being founded in 1972, Accuphase has never wavered from its philosophy of creating truly high-class audio components. A thorough dedication to quality in the interest of optimal sound reproduction has allowed the company to introduce many legendary models, highly regarded for their innovativeness, sonic excellence, and solid reliability. The Stereo Control Center C-2120, while inheriting the outstanding design approach and technology of models such as the C-3800, also represents a full model change from its predecessor C-2110, with further enhanced overall circuitry. It provides the flexibility to handle any kind of source while maximizing its inherent sound quality potential.

Acuphase’s ground-breaking AAVA (Accuphase Analog Vari-gain Amplifier) volume control, first introduced in the model C-2800, has been continually further refined and improved. AAVA operates fully in the analog domain, but it eliminates all potentiometers from the signal path. This has a number of advantages, such as (1) outstanding S/N ratio, (2) extremely low distortion, (3) virtually no change in frequency response and sound quality at any listening level, (4) minimal left/right level differences (tracking errors), and (5) minimal left/right crosstalk. The result is a volume control that far surpasses conventional concepts.

The C-2120 features separate power supplies for left and right channel, each with a dedicated power transformer, filtering capacitors and peripheral circuitry. The various unit amplifiers are also entirely separate for the two channels, arranged on a motherboard in fully monaural construction. This prevents unwanted crosstalk and interaction both on the electrical and the physical plane. Preamplifier functionality also has been given due attention, with tone controls, a loudness compensator, recorder connection support and other convenient features. The phase setting can be made for each input position separately, and EXT PRE connectors offer further enhanced flexibility.

A range of sophisticated option boards opens up even more possibilities. The newly developed Digital Input Board DAC-46 features a USB port and support for high-bit, high-sampling frequency signals up to 192 kHz/24 bits. This allows reproduction for example of high-quality music library data residing on a computer. The DAC input selector button makes it easy to switch between the optical, coaxial, and USB input. For the first time in a preamplifier, the sampling frequency of a digital signal onto which the amplifier has locked can be shown as a numeric readout. The newly developed Analog Disc Input Board AD-30 is also available, ideal for high-grade reproduction of analog records using either MC or MM phono cartridges.

AAVA (Accuphase Analog Vari-gain Amplifier) Volume Control

- Total of 18 V-I converter amplifiers, paralleled for upper two units. Input stage ensures powerful drive capability with two buffer amplifiers.
- No more left/right tracking differences or crosstalk.
- Amplifier display shows accurate gain as numeric indication.
- High S/N ratio, low distortion, and uniform frequency response and sound quality at any volume.
- High-resolution volume control.
- Attenuator and left/right balance control also implemented by AAVA.
- Long-term reliability for unchanged performance and sound quality.
- AAVA means processing implemented in analog domain.
- Same operation feel as a conventional high-quality volume control.

AAVA operation principle

The music signal is converted into 16 types of weighted current by V-I (voltage - current) converting amplifiers [1/2, 1/2², ..., 1/2¹⁵, 1/2¹⁶]. The 16 currents are turned on or off by 16 current switches, and the combination of switch settings determines the overall volume. The switching operation is controlled by a CPU according to the position of the volume control knob. The combined signal current forms a variable gain circuit that adjusts the volume. Finally, the combined current is converted back into a voltage by an I-V (current - voltage) converter.
Since being founded in 1972, Accuphase has never wavered from its philosophy of creating truly high-class audio components. A thorough dedication to quality in every aspect of their products has been a cornerstone of their success.

Vari-gain Amplifier (Accuphase Analog Vari-gain Amplifier) volume control, first introduced in the Accuphase’s ground-breaking AAVA (Accuphase Analog Vari-gain Amplifier) model change from its predecessor C-2110, with further refinement and optimization of models such as the C-3800, also represents a full inheritance of the outstanding design approach and technology.

No more left/right tracking differences or crosstalk. High-resolution volume control. Versatile arrangement of line and balanced input and output connectors. Short and straight signal paths, along with logic-controlled relays for support for digital input selection and sampling frequency indication. Provision for recording and playback end presence.

The result is a sound quality potential that far surpasses conventional concepts. Errors are kept to a minimum, (1) no change in ratio, (2) extremely low distortion, (3) virtually no change in level, (4) zero memory effects, (5) minimal left/right crosstalk. The new AAVA uses a unit amplifier configuration comprising the input buffer, 18 V-I Converter amplifier, etc. Left and right channels, arranged on a motherboard in fully monaural unit amplifiers are also entirely separate for the two channels, arranged on a motherboard in fully monaural.

AAVA operation principle

- High-quality volume control.
- Versatile arrangement of line and balanced input and output connectors.
- Short and straight signal paths, along with logic-controlled relays for support for digital input selection and sampling frequency indication.
- Provisions for recording and playback end presence.

AAVA uses a unit amplifier configuration comprising the input buffer, 18 V-I Converter amplifier, etc. Left and right channels, arranged on a motherboard in fully monaural unit amplifiers are also entirely separate for the two channels, arranged on a motherboard in fully monaural.

![C-2120 Block Diagram](image)

**Supplied Remote commander RC-220**

Allows volume adjustment, input source switching, and other operations.

**Unit amplifier assembly**

Signal transmission circuitry consists of five unit amplifiers arranged separately for left and right channels on a motherboard, together with a control board.
Three types of option boards are available for the C-2120: Digital Input Board DAC-40, Analog Disc Input Board AD-30, and Line Input Board LINE-10. These boards can be installed in the rear-panel slots as required. (It is also possible to install two identical boards.)

The Digital Input Boards DAC-30/DAC-20/DAC-16, Analog Disc Input Boards AD-20/AD10/AD-9, and Line Input Board LINE-9 can also be used.

With the AD-30/AD-20, switching between MC and MM is possible using the selector on the front panel of the C-2120. 1

When using the AD-10/AD-9, MC/MM switching must be performed on the board.

The C-2120 has a DAC input selector button that allows input selection when using the Digital Input Board DAC-40 With USB Port. Display of the sampling frequency of the locked digital signal is also possible. 2

Not supported when using DAC-30/DAC-20/DAC-10.

http://www.accuphase.com

Specifications and design subject to change without notice for improvements.

Option Boards

Digital Input Board DAC-40

Features a high sound quality, high-performance MDS++ D/A converter. The USB port allows connection to a computer via USB cable, for reproduction of high-resolution music library data with superior sound quality.

- COAXIAL: For 75-ohm coaxial cable
  Supported sampling frequency range: 32 kHz to 192 kHz, 24-bit
- OPTICAL: For optical fiber
  Supported sampling frequency range: 32 kHz to 96 kHz, 24-bit
- USB: For USB cable (Type B connector)
  Supported sampling frequency range: 32 kHz to 192 kHz, 24-bit

Analog Disc Input Board AD-30

Features a high-performance, high-gain phono equalizer for playback of analog records with outstanding sound quality.

- MC/MM switching is possible on the front panel of the C-2120.
- Internal DIP switches control MC input impedance and subsonic filter on/off.

- MC Gain: 66 dB
  Input Impedance: 300/300/300 ohms (selectable)
- MM Gain: 40 dB
  Input Impedance: 47 kilohms

Line Input Board LINE-10

Provides a set of line level inputs.

DAC-40 connection example

C-2120 GUARANTEED SPECIFICATIONS

[Guaranteed specifications are measured according to EIA standard RS-490.]

- Frequency Response BALANCED/LINE INPUT: 3 - 200,000 Hz +0.3 dB
  20 - 20,000 Hz +0.2 dB
- Total Harmonic Distortion (for all inputs) 0.005%
- Input Sensitivity, Input Impedance

<table>
<thead>
<tr>
<th>Input</th>
<th>Sensitivity</th>
<th>Impedance</th>
</tr>
</thead>
<tbody>
<tr>
<td>BALANCED</td>
<td>252 mV</td>
<td>63 mV</td>
</tr>
<tr>
<td>LINE</td>
<td>252 mV</td>
<td>63 mV</td>
</tr>
</tbody>
</table>

- Rate Output Voltage, Output Impedance BALANCED/LINE OUTPUT: 2 V 50 ohms
  RECORDER REC (with AD input): 252 mV 200 ohms

- S/N Ratio, Input-converted Noise (gain selector: 18 dB)

<table>
<thead>
<tr>
<th>Input</th>
<th>Shorted, A-weighting</th>
<th>S/N ratio</th>
<th>EIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>BALANCED</td>
<td>109 dB</td>
<td>107 dB</td>
<td>107 dB</td>
</tr>
<tr>
<td>LINE</td>
<td>109 dB</td>
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- Maximum Output Level (0.005% THD, 20 - 20,000 Hz)

  - BALANCED/LINE OUTPUT: 7.0 V
  - RECORDER REC: (with AD input): 6.0 V

- LINE Maximum Input Level

  - BALANCED/LINE INPUT: 6.0 V
  - RECORDER REC: 600 ohms

- Minimum Load Impedance RECORDER REC: 10 kilohms

- Gain (gain selector: 18 dB)

  - Gain switchable to 12/18/24 dB

  - BALANCED INPUT → BALANCED OUTPUT: 18 dB
  - BALANCED INPUT → LINE OUTPUT: 18 dB
  - LINE INPUT → BALANCED OUTPUT: 18 dB
  - LINE INPUT → LINE OUTPUT: 18 dB

- Tone Controls Bass/Treble controls with selectable turnover frequencies

<table>
<thead>
<tr>
<th>Source component</th>
<th>Gain selector</th>
<th>Attenuator</th>
<th>Headphone Jack</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASS</td>
<td>40/100 Hz</td>
<td>+6 dB (100 Hz)</td>
<td>32 kHz</td>
</tr>
<tr>
<td>TREBLE</td>
<td>80/20 kHz</td>
<td>-20 dB</td>
<td>200 Hz</td>
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- Loudness Compensation

- Power Requirements

  120 V/220 V/230 V AC, 50/60 Hz

- Power Consumption

  30 W

- Maximum Dimensions

  Width 465 mm (18-5/16")
  Height 150 mm (5-7/8")
  Depth 405 mm (15-15/16")

- Mass

  16.8 kg (36.3 lbs)
  25.0 kg (55.1 lbs) in shipping carton

**Supplied accessories**

- AC power cord
- Audio cable with plugs (1 meter)
- Remote Commander RC-220

**Option Board installation slots**

- Option Board
- Function LED indicators
- Volume control
- Power switch
- Output selector
- EXT PRE / ALL / BAL / LINE / OFF
- BASS/TREBLE controls
- Function selector buttons
- Phase / Stereo/Mono / DAC input / MC/MM / Tone control
- Tone control
- Audio cable with plugs (1 meter)

**Input selector**

- @2
- @1

**Line inputs**

- TUNER / CD / LINE1, 2, 3
- Recorder outputs
- Line outputs (2 sets)
- EXT PRE inputs
- Balanced inputs (2 sets)
- Balanced outputs
- When using line input: Pin 2 (+), Pin 3 (+)
- When using balanced inputs: Same as input source component
- (Can be changed with phase selector button)
- EXT PRE inputs (balanced)
- AC power connector

**Attenuator button**

- Headphone jack

**Supplied accessories**

- AC power cord
- Audio cable with plugs (1 meter)
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- Harmonic distortion

- Total harmonic distortion (all inputs) 0.005%

- Input sensitivity, input impedance

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- Rated output voltage, output impedance

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- Gain (gain selector: 18 dB)

  - Gain switchable to 12/18/24 dB

  - BALANCED INPUT → BALANCED OUTPUT: 18 dB
  - BALANCED INPUT → LINE OUTPUT: 18 dB
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- Tone controls

  - Bass/Treble controls with selectable turnover frequencies

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- Supplied accessories

  - AC power cord
  - Audio cable with plugs (1 meter)
  - Remote Commander RC-220

**Option board installation example.**

**Front Panel**

- Power switch
- Output selector
- EXT PRE / ALL / BAL / LINE / OFF
- BASS/TREBLE controls
- Function selector buttons
- Phase / Stereo/Mono / DAC input / MC/MM / Tone control
- Tone control
- Audio cable with plugs (1 meter)

- Input selector
- Function LED indicators
- Volume control
- Power switch
- Output selector
- EXT PRE / ALL / BAL / LINE / OFF
- BASS/TREBLE controls
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**Rear Panel**

- Line input TUNER / CD / LINE1, 2, 3
- Recorder outputs
- Line outputs (2 sets)
- EXT PRE inputs
- Balanced inputs (2 sets)
- Balanced outputs
- When using line input: Pin 2 (+), Pin 3 (+)
- When using balanced inputs: Same as input source component
- (Can be changed with phase selector button)
- EXT PRE inputs (balanced)
- AC power connector

- Gain selector 12db / 18db / 24db
- Recorder selector OFF / ON / PLAY
- Loudness compensator button
- Attenuator button
- Headphone jack

**Supplied accessories**

- AC power cord
- Audio cable with plugs (1 meter)
- Remote Commander RC-220

**Remarks**

- This product is available in versions for 120/220/230 V AC. Make sure that the voltage shown on the rear panel matches the AC line voltage in your area.

- 230 V version has an Eco Mode that switches power off after 120 minutes of inactivity.

- The shape of the AC inlet and plug of the supplied power cord depends on the voltage rating and destination country.

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PRINTED IN JAPAN 850-2181-00