

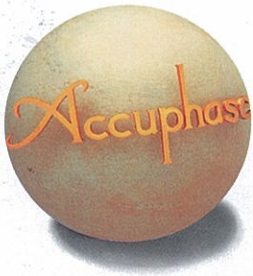
Accuphase

STEREO CONTROL CENTER

C-265

- Line amplifier using current feedback topology for outstanding operation stability
- Balanced output stage with bridged feedback
- Fully modular construction with separate amplifier stages
- Option board allows analog disc playback
- Logic-controlled relays for shortest signal paths
- Balanced inputs
- Supplied remote commander





A new type of preamplifier using balanced signal transmission. The line amplifier stage features current feedback topology for superior sound and total operation stability. Dedicated power transformers for left and right channels and full mono construction with physically separate amplifier modules. Option board allows analog disc reproduction with superb sound quality.

The C-265 is a stereo control center designed for impeccable sound quality. It incorporates a wealth of prestigious Accuphase technology, such as balanced signal transmission and current feedback line amplifier stages. In its standard configuration, the C-265 offers a versatile array of line-level inputs, but by installing the optional analog disc board in a dedicated slot on the rear panel, it also offers outstanding analog disc reproduction. In order to bring out the best in program sources and to extract the full sonic potential of the power amplifier, a preamplifier must faithfully transmit the music signal without deterioration or addition of any form of coloration.

The C-265 achieves this task admirably, thanks to its balanced circuit topology that reliably eliminates all noise. The output stage is especially noteworthy for its symmetrically bridged feedback, which results in a floating design where the signal is kept entirely separate from the ground line. The line amplifiers are based on the current feedback principle which has proven its sonic excellence in many top-grade components from Accuphase. This principle virtually eliminates phase shifts in the upper frequency range. Frequency response is not affected by gain, and only small amounts of negative feedback are required. This allows the phase compensation circuitry to be kept simple, thus assuring superb transient response.

The C-265 employs modular construction using sturdy enclosures made from extruded aluminum. This design provides electrical insulation and protects the amplifier against vibrations and other adverse mechanical influences. Not only the unit amplifiers, but also the power transformers and filtering capacitors are kept separate for the left and right channels. This dual mono configuration precludes any possibility of unwanted electrical interaction. Tone controls and a loudness compensator allow sonic touch-ups. Balanced inputs and logical relays ensure extremely short and highly pure signal paths. The C-265 offers a perfect blend of sound quality and performance at the highest level.

Current Feedback Topology in Line Amplifiers Prevents Phase Shifts

In order to improve the characteristics of an amplifier, a commonly employed technique called negative feedback (NFB) routes part of the output

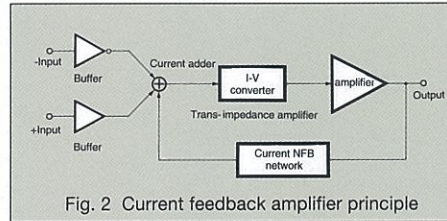


Fig. 2 Current feedback amplifier principle

signal back to the input. Conventional amplifiers employ voltage NFB, but the C-265 uses the signal current rather than the voltage for feedback. Figure 2 shows the operating principle of this circuit. At the sensing point of the feedback loop, current detection with low impedance is performed. A trans-impedance amplifier then converts the current into a voltage to be used as the feedback signal. Since the impedance at the current feedback point (current adder in Fig. 2) is very low, there is almost no phase shift. Phase compensation therefore can be kept at a minimum, resulting in excellent transient response and natural energy balance. Figure 3 shows the frequency response for different gain settings of the current feedback amplifier. With this circuit, there is virtually no change in frequency response when gain is altered, and the response remains uniform over a wide range.

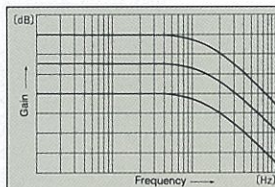


Fig. 3 Frequency response with current feedback (response remains uniform even when gain changes)

Balanced Output Stage With Bridged Feedback

In balanced signal transmission, two identical signals are transmitted simultaneously with inverted phase and combined at the receiving end, thereby

canceling out common-mode noise and interference. This assures pure high-quality signal transmission. The principle of balanced sound transmission is shown in Figure 4. The outputs of the two amplifiers AMP1 and AMP2 are connected to form a cross-feedback loop, which sends the symmetrical (+) and (-) signals with low impedance to the next stage. The signals are isolated from the ground line, resulting in an ideal balanced circuit. Even if one side of the output is grounded, both amplifiers continue to operate, and the output voltage does not change.

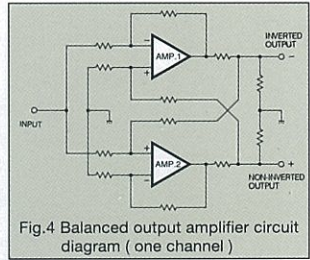


Fig. 4 Balanced output amplifier circuit diagram (one channel)

Discrete Line Amplifier Designed for Sound Quality

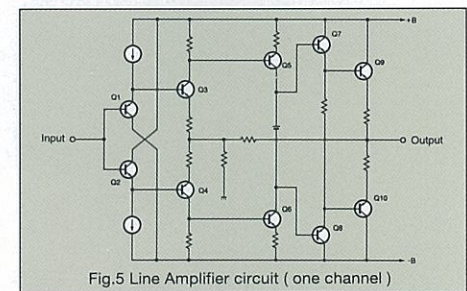
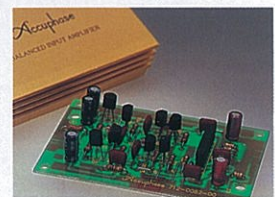


Fig. 5 Line Amplifier circuit (one channel)

The line amplifier (Fig. 5) is a pure complementary push-pull circuit built from discrete components and employing current feedback. Phase compensation can be kept to a minimum, resulting in life-like ambience. A balanced input stage with gain is located directly before the volume control, followed by the line amplifier. This assures outstanding signal-to-noise ratio also at low listening levels.

Fully Modular Construction

The C-265 contains a total of six separate modules comprising the balanced input amplifiers, line amplifiers, and balanced output amplifiers for each channel. Mounted on a massive chassis made of extruded aluminum, the modules provide optimum operating conditions for each circuit segment and reliably shut out external vibrations.



Separate Transformers for Left and Right Channels and Dedicated Power Supply Circuits for Each Unit Amplifier

Two completely separate sets of transformers and filtering capacitors are provided, to preclude any possibility of electrical interaction between the

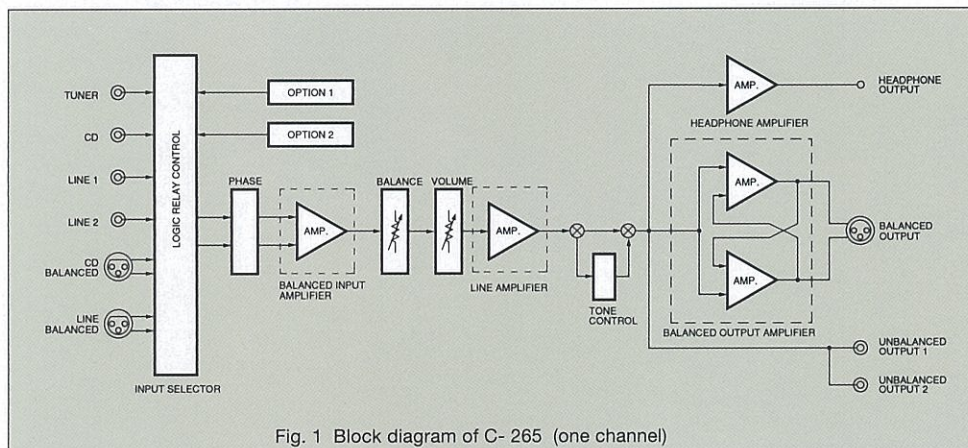
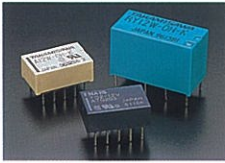


Fig. 1 Block diagram of C-265 (one channel)

channels. In addition, to eliminate possible interference between stages each unit amplifier has its own wide-range voltage regulator circuitry, .

Logic-Controlled Relays Assure High Sound Quality and Long-Term Reliability

To realize the shortest possible signal paths, the C-265 employs logic-controlled high-quality relays strategically placed near the signal entry and exit points. The relays are high-quality types originally developed for professional communication applications. Their gold-plated cross-bar twin contacts ensure minimum contact resistance and outstanding long-term reliability.



Tone Controls Use Summing Active Filters for Highest Sound Quality

The tone control circuitry in the C-265 was specially designed with summing active filters such as found in high-quality graphic equalizers. Figure 6 illustrates the operation principle of this circuit. The flat signal is passed straight through, and only when an adjustment is required, the characteris-

tics are created at F₁ and F₂ and added to the signal, thereby producing the desired change. This design provides efficient control without degrading signal purity.

Dedicated Headphone Amplifier for Optimum Sound

The C-265 provides a separate amplifier for the phone jack designed to provide superior sonic performance. The power amplifier output can be cut off by a switch, and the main volume control can be used to adjust the headphone listening level.

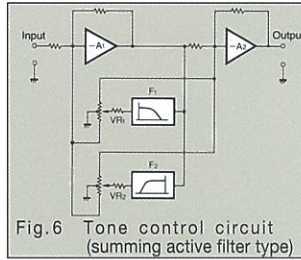
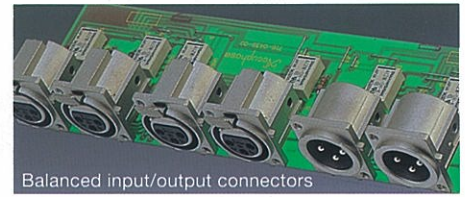


Fig. 6 Tone control circuit (summing active filter type)

Versatile Input Configuration Including Balanced Inputs

The input selector has eight positions (including positions for two optional inputs), and two tape recorders can be connected to the C-265. Two inputs (CD and LINE) offer balanced connectors,

for high-quality signal transmission free from externally induced noise.



Balanced input/output connectors

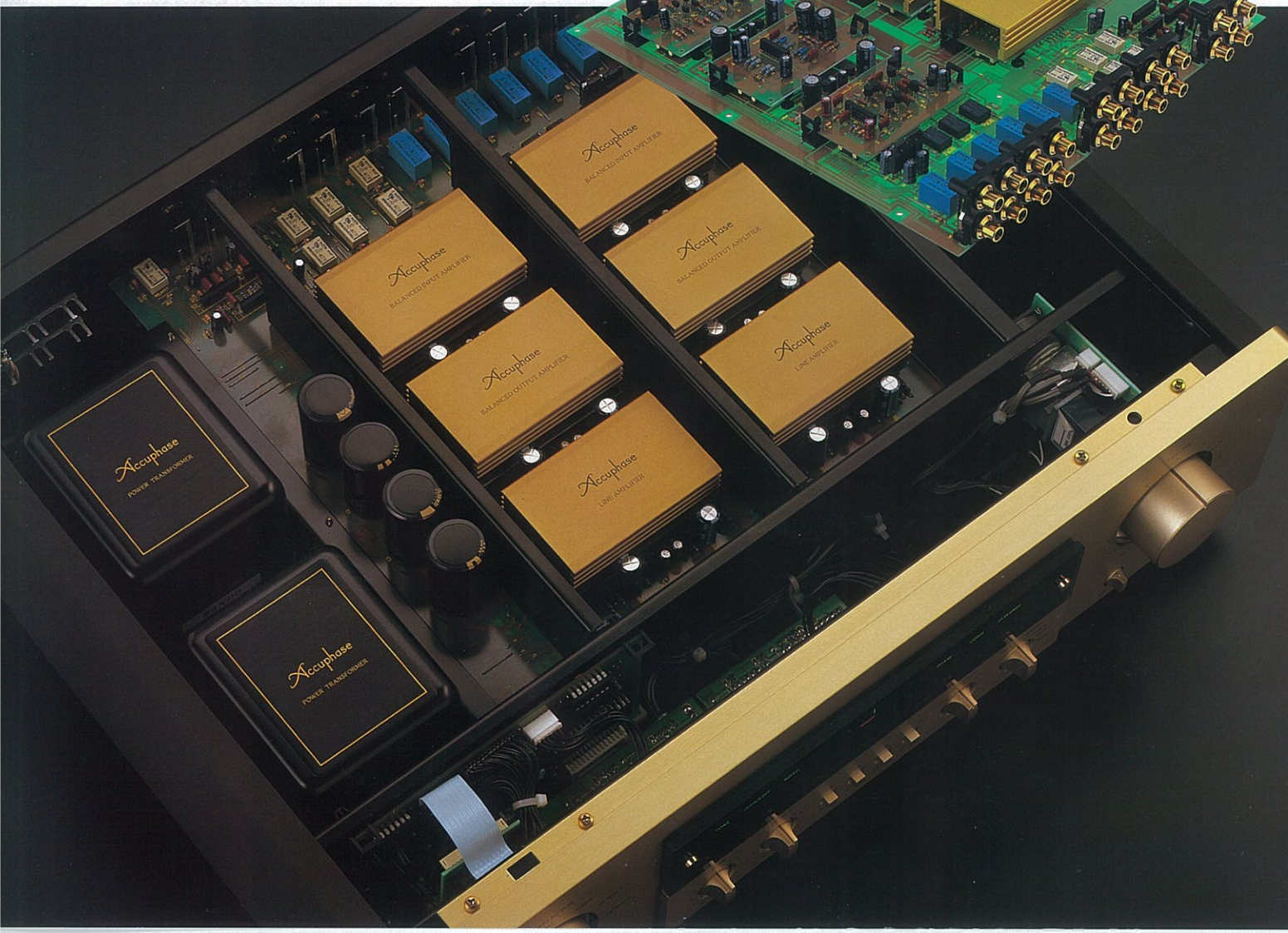
High-Quality Volume Control and Supplied Remote Commander for Source Switching and Volume Level Adjustment

The volume control is a vital element in a preamplifier which has an important bearing on the sonic result. The C-265 uses a top-grade device with special low-distortion resistors. When the supplied remote commander is used to adjust the listening level from a distance, a small motor drives the volume control via a clutch, for smooth, reliable action.



■ High-reliability parts with superior sonic properties

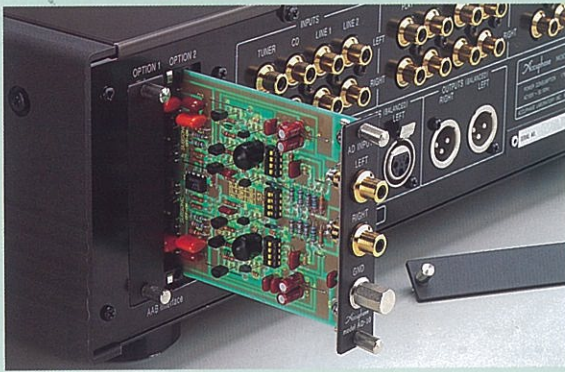
■ Motherboard with six unit amplifiers (line amplifier, balanced input/output amplifier etc.) filtering capacitors, gold-plated input/output jacks and switching relays



Option Boards

The C-265 has two dedicated slots on the rear which accept dedicated option boards (using the AAB interface). Two types of boards are available. Choose the kind of board that is suitable for your needs.

* Any board can be installed in any empty slot.



To increase the number of line inputs . . .

Line Input Board LINE-10

This option board provides an additional set of unbalanced analog line inputs which can be used to connect a CD player, tuner, or other component with analog outputs.

To play back analog records . . .

Analog Disc Input Board AD-10

High-quality reproduction of analog records

This board contains a high-performance, high-gain phono equalizer. The board can be used with any type of phono cartridge.

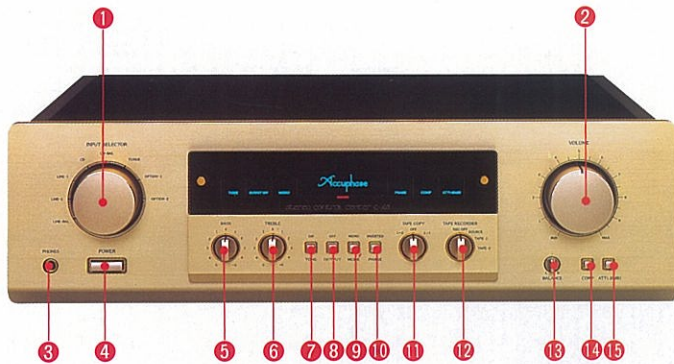
MM/MC selection, MC input impedance, and subsonic filter ON/OFF are set using internal DIP switches.

MM Gain: 29 dB Input impedance: 47 kilohms

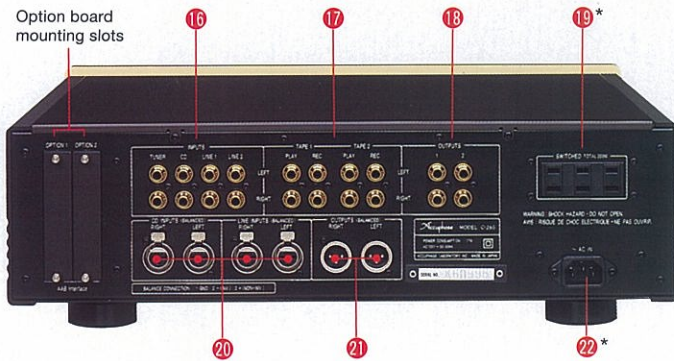
MC Gain: 60 dB Input impedance: 10/30/100 ohms (selectable)

* Both boards use the AAB (Accuphase Analog Bus) Interface

FRONT PANEL



REAR PANEL



- 1 Input selector
LINE-BAL, LINE-2, LINE-1, CD, CD-BAL,
TUNER, OPTION-1, OPTION-2
- 2 Volume Control
- 3 Headphone Jack
- 4 Power Switch
- 5 Bass Control
- 6 Treble Control
- 7 Tone Control ON/OFF button
- 8 Output ON/OFF button
- 9 Stereo/mono selector
- 10 Phase selector
- 11 Tape Copy switch 1 → 2, OFF, 2 → 1
- 12 Record output selector/tape monitor switch
REC OFF, SOURCE, TAPE-1, TAPE-2
- 13 Balance Control
- 14 Loudness compensator button
- 15 Attenuator button
- 16 Line input jacks
- 17 Tape deck record/playback jacks
- 18 Unbalanced output jacks (2 set)
- 19 Convenience AC outlet (switched)*
- 20 CD/LINE balanced input connectors
① Ground ② Inverted (-) ③ Non-inverted (+)
- 21 Balanced output connectors
- 22 AC connector (for supplied power cord)*

Remarks

* The shape of the AC inlet, plug of the supplied power cord, and AC outlet depends on the voltage rating and destination country.
* These switched AC outlets may not be supplied depending on the safety standards or regulations applicable in the particular country to where the unit is destined.

※ Specifications and design subject to change without notice for improvements.

GUARANTEED SPECIFICATIONS

※ Guaranteed specifications are measured according to EIA standard RS-490.
Specifications are shown for a configuration with the Analog Disc Board installed.

● **Frequency Response :** BALANCED/UNBALANCED : 3 - 350,000Hz +0, -3.0 dB
20 - 20,000Hz +0, -0.2 dB
AD INPUT : 20 - 20,000Hz ± 0.2 dB

● **Total Harmonic Distortion (for all inputs) :** 0.005%

● **Input Sensitivity, Input Impedance:**

Input	Sensitivity		Input impedance
	For rated output	For 0.5 V output	
AD : MM INPUT	8.9mV	2.2mV	47 kΩ
AD : MC INPUT	0.25mV	0.063mV	10/30/100 Ω switchable
BALANCED	252mV	63mV	40 kΩ
UNBALANCED	252mV	63mV	20 kΩ

● **Output Voltage, Output Impedance :** BALANCED/UNBALANCED OUTPUT : 2V, 50 ohms
TAPE REC (with AD input) : 252 mV, 200 ohms

● **Signal-to-Noise Ratio**

Input	Input shorted, IHF-A weighting S/N ratio at rated input	EIA S/N ratio
AD : MM INPUT	92 dB	85 dB
AD : MC INPUT	75 dB	80 dB
BALANCED	106 dB	99 dB
UNBALANCED	105 dB	99 dB

● **Maximum Output Level (0.005% THD, 20 - 20,000 Hz) :** BALANCED/UNBALANCED OUTPUT : 6.0 V
TAPE REC (with AD input) : 6.0 V

● **Minimum Load Impedance:** BALANCED/UNBALANCED OUTPUT : 600 ohms
TAPE REC (with AD input) : 10 kohms

● **GAIN:** BALANCED/UNBALANCED INPUT → BALANCED/UNBALANCED OUTPUT: 18 dB
AD (MM) INPUT → BALANCED/UNBALANCED OUTPUT: 47 dB
AD (MC) INPUT → BALANCED/UNBALANCED OUTPUT: 78 dB

● **Tone Controls:** Crossover frequency and adjustment range
BASS : 300 Hz ± 10 dB (50 Hz)
TREBLE : 3 kHz ± 10 dB (20 kHz)

● **Loudness Compensation :** +6 dB (100 Hz) (Volume control setting -30 dB)

● **Attenuator :** -20 dB

● **Stereo Headphones :** Suitable impedance : 4 - 100 ohms

● **Power Requirements :** 100 V, 120 V, 220 V, 230 V, 240 V (Voltage as indicated on rear panel) 50/60 Hz AC

● **Power Consumption :** 17 watts

● **Maximum Dimensions :** Width 475 mm (18-11/16")
Height 150 mm (5-7/8")
Depth 404 mm (15-7/8")

● **Weight :** 15.8 kg (34.8 lbs) net
20.8 kg (45.9 lbs) in shipping carton

● **Supplied Remote Commander RC-20 :** Remote control principle : infrared pulse
Power supply : 3 V DC (IEC R6 batteries x 2)
Dimensions : 55 (width) x 194 (height) x 18 (depth) mm
Weight : 100 g (including batteries)

Accuphase
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