

NAD

SERVICE MANUAL

3220PE
3020e

INTEGRATED AMPLIFIERS

ALIGNMENT METHOD

AUDIO SECTION 3220PE/3020e

IMPORTANT

Speaker impedance switch should be in 8 ohm position while adjust center voltage and idling current.

INITIAL ADJUSTMENT (No load connected)

A. CENTER VOLTAGE

1. Connector DC millivoltmeter to L channel output terminal.
2. Turn on and adjust to 0 V \pm 30mV with R411(100 ohm). Connect DC millivoltmeter to R channel output terminal and adjust R412 to 0 V \pm 30mV.

B. IDLING CURRENT

1. Remove solder short across R455 and R456.
2. Connect DC millivoltmeter across R455 (1 ohm) (output transistor's collector resistor) and adjust R443 for 26-30mV reading on meter. Repeat adjustment with R444, connecting meter across R456 (1 ohm).
3. Leave power on for minimum 5 minutes.

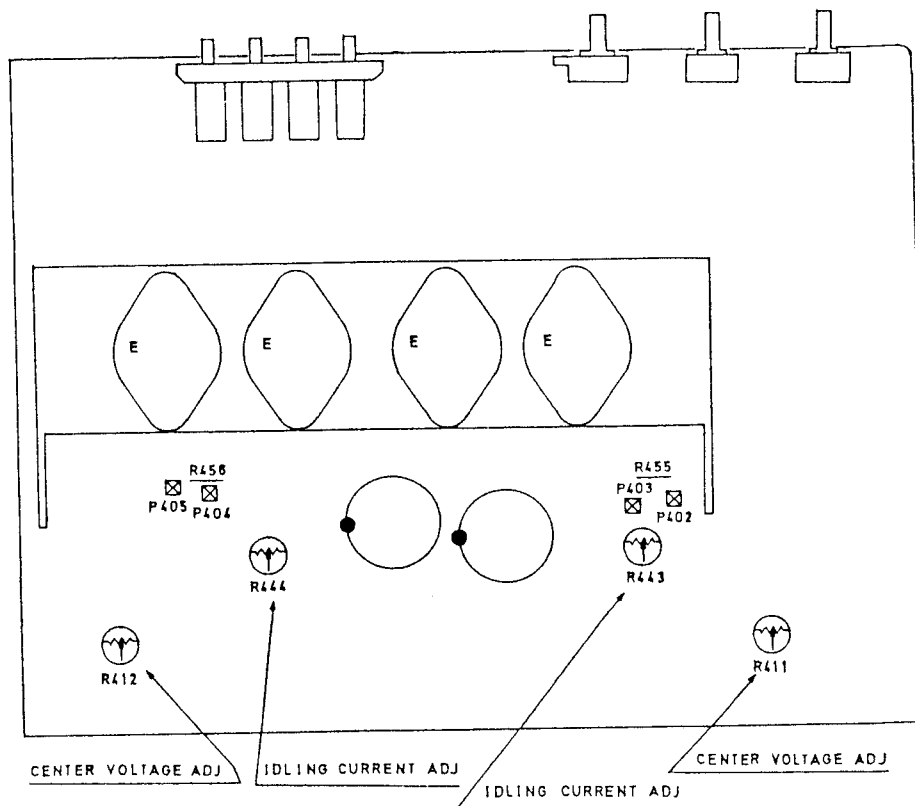
FINAL ADJUSTMENT

C. CENTER VOLTAGE

1. Repeat step A about.

D. IDLING CURRENT

1. Repeat step B and adjust with R443, R444 for 30mV reading on meter.
2. After the alignment is finished, 1 ohm resistor R455, R456 is shorted by solder short.



The schematic diagram for the NAD-3220PE stereo amplifier is a complex electronic circuit. It is organized into several main sections:

- Input Stages (Top Left):** This section includes the phono input (P201-A, P201-B) and the tuner input (P201-1, P201-2). It features a series of transistors and resistors that process the incoming audio signals.
- Preamplifier Stages (Middle Left):** This section contains the main preamplifier circuit, including the 2N3055 transistor and various resistors and capacitors that control the signal gain and frequency response.
- Power Amplifier Stages (Bottom Left):** This section is responsible for driving the speakers. It includes the 2N3055 power transistor, a push-pull output stage, and a large power transformer (T01) that provides the necessary power to the speakers.
- Power Supply Section (Right):** This section shows the power supply circuit, including the power transformer (T01), a full-wave rectifier bridge (D01, D02, D03, D04), and a filter capacitor (C01) that smooths the rectified AC into a steady DC supply.

The schematic also includes a detailed list of parts at the bottom right, which identifies the specific components used in the circuit, such as resistors, capacitors, transistors, and diodes. This list is essential for building the amplifier correctly.

NOTES:

1. RESISTORS ARE 1/4W UNLESS OTHERWISE SPECIFIED.
2. * DENOTES RESISTORS MOUNTED UP FROM P.C.B.
3. C DENOTES CAPACITORS MOUNTED ON MAIN HEAT-SINK.
4. * DENOTES PARTS USED FOR P.T.C. ONLY.
5. R400 AND R401 USED FOR IDLING CURRENT ADJUST ONLY MUST BE SHORTED IN NORMAL OPERATION.
6. VOLTAGES SHOWN ARE MEASURED WITH NO SIGNAL APPLIED.

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