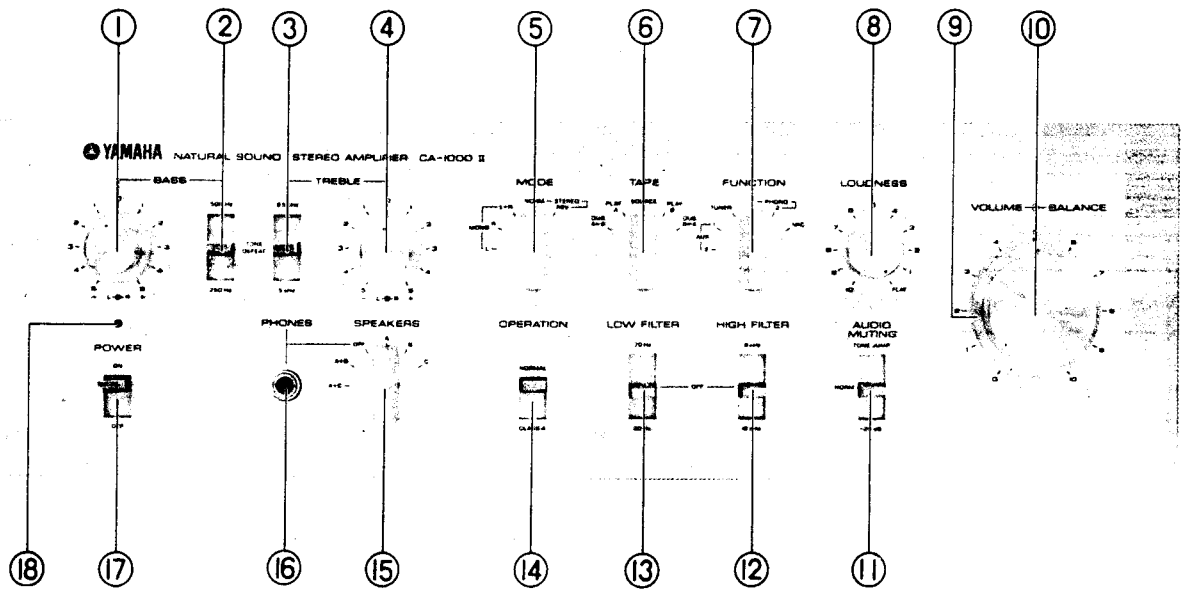
# CA-1000II

## INTEGRATED AMPLIFIER




❶ BASS CONTROL
❷ BASS TURNOVER SWITCH
❸ TREBLE TURNOVER SWITCH
❹ TREBLE CONTROL
❺ MODE SELECTOR
❻ TAPE SELECTOR
❼ FUNCTION SELECTOR
❽ LOUDNESS CONTROL
❾ BALANCE CONTROL
❿ VOLUME CONTROL
⓫ AUDIO MUTING SWITCH
⓬ HIGH FILTER SWITCH
⓭ LOW FILTER SWITCH
⓮ A CLASS/B CLASS OPERATION SWITCH
⓯ SPEAKER SELECTOR
⓰ HEADPHONE JACK
⓱ POWER SWITCH
⓲ POWER INDICATOR

# ■ SPECIFICATIONS

## ■ POWER AMP SECTION

| | | |
|---|---|---|
| **CIRCUIT SYSTEM** | Switched A/B type all stage direct coupled pure complementary SEPP OCL circuit | |
| **DYNAMIC POWER (IHF, 8Ω)** | **200W (B class), 30W (A class)** | |
| **OUTPUT** | 20Hz~20kHz | |
| 20Hz ~ 20kHz | B Class, 8Ω | 70W x 2 |
| Both channels Driven | B Class, 4Ω | 85W x 2 |
| | A Class, 8Ω | 15W x 2 |
| 1kHz (Both Channels Driven) | | |
| | B Class, 8Ω | 80W x 2 |
| | B Class, 4Ω | 105W x 2 |
| | A Class, 8Ω | 15W x 2 |
| 1kHz (One Channel Driven) | | |
| | B Class, 8Ω | 90W |
| | B Class, 4Ω | 120W |
| | A Class, 8Ω | 15W |

**TOTAL HARMONIC DISTORTION**

| | |
|---|---|
| B Class at Rated Output | 0.1% |
| B Class at 1W Output | 0.04% |
| A Class at Rated Output | 0.1% |
| A Class at 1W | 0.02% |

**INTERMODULATION DISTORTION** (70Hz: 7kHz=4:1)

| | |
|---|---|
| B Class at Rated Power | 0.1% |
| B Class at 1W | less than 0.05% |
| A Class at Rated Power | 0.1% |
| A Class at 1W | less than 0.05% |

**POWER BANDWIDTH** (IHF, Both Channels Driven 0.05%)

| | | |
|---|---|---|
| B Class | 10Hz | 50kHz |
| A Class | 10Hz | 100kHz |

**FREQUENCY RESPONSE**

| | |
|---|---|
| B Class | 20Hz ~ 100kHz ±$^{0}_{3}$dB |
| A Class | 20Hz ~ 100kHz ±$^{0}_{3}$dB |

**INPUT SENSITIVITY**

| | |
|---|---|
| B Class | 775mV |
| A Class | 330mV |

**INPUT IMPEDANCE** 100kΩ

**OUTPUT TERMINALS**

| | |
|---|---|
| Speaker Terminals | A, B, C, A+B, A+C (4Ω ~ 16Ω) |

**DAMPING FACTOR**
(1kHz, 8Ω) 70

**S/N RATIO**
(IHF, A Network) 100dB

**RESIDUAL NOISE** (8Ω, Pre-Amp + Power Amp)
0.8mV

## PRE-AMP SECTION

**CIRCUIT SYSTEM**

| | |
|---|---|
| Equalizer Amp | FET, SRPP Input Tr, SEPP Output |
| Microphone Amp | Two-transistor direct coupled amp. |
| Control Amp | Intermediate emitter-follower type. |

**INPUT SENSITIVITY AND IMPEDANCE**

| | |
|---|---|
| Phono 1 | MC200μV/100Ω 3mV/50kΩ, 100kΩ |
| Phono 2 | 3mV/50kΩ |
| Phono Maximum Input Capacity (at 1kHz) | 310mVrms (870mVp-p) |
| Mic. | 2.5mV/50kΩ |
| Tuner | 120mV/50kΩ |
| Aux. 1, 2 | 120mV/50kΩ |
| Tape PB A, B | 120mV/50kΩ |

**OUTPUT LEVEL AND IMPEDANCE**

| | |
|---|---|
| Tape Rec Out A, B | 120mV/2kΩ |
| Pre Out (B class) | 775mV/2kΩ |

**FREQUENCY RESPONSE**

| | |
|---|---|
| Phono (RIAA equalization) | 30Hz ~ 15kHz ±0.2dB |
| Mic. | 20Hz ~ 20kHz +0dB, −2dB |
| Tuner, Aux, Tape PB | 20Hz ~ 20kHz +0dB, −0.2dB |

**TONE CONTROLS**

| | |
|---|---|
| Bass | 50Hz ±15dB 250Hz, 500Hz ±3dB |
| Treble | 10kHz ±10dB 2.5kHz, 5kHz ±3dB |

**AUDIO MUTING** −20dB

**FILTERS**

| | |
|---|---|
| Low | 20Hz, 70Hz (−12dB/oct.) |
| High | 6kHz, 12kHz (−6dB/oct.) |

**LOUDNESS CONTROL** Continuous loudness control to be treated as loudness curve

**S/N RATIO** (IHF, A Network)

| | |
|---|---|
| Phono 1 | MC 70dB, 50kΩ, 100kΩ 80dB |
| Phono 2 | 80dB |
| Mic. | 70dB |
| Tuner, Aux, Tape | 90dB |

## ■ AUXILIARY CIRCUITS

Transistorized Protector Circuit (ASO detection limiter system)
Speaker Protection Circuit (Voltage direction relay drive system)

| | |
|---|---|
| Operation Switch | A Class/B Class switchover |
| Tape Dubbing Switch | Continuous Loudness |
| Tone Jump Switch | |

## ■ GENERAL

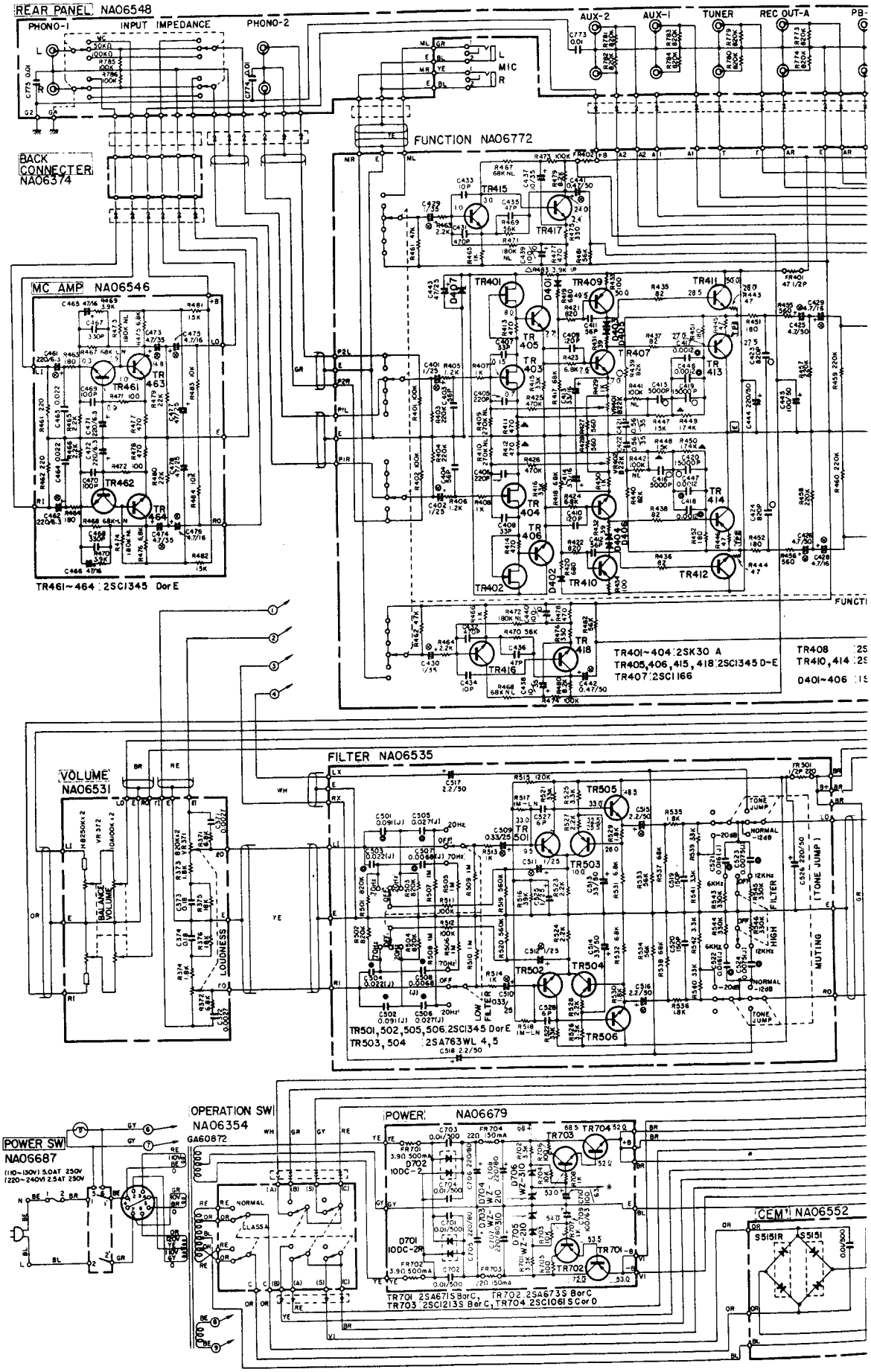
| | |
|---|---|
| Power Source | AC110, 117, 130, 220, 240V 50 ~ 60Hz |
| Power Consumption Rated European model | 560W |

■ **DIMENSIONS** 436(W) x 144(H) x 323m/m(D)

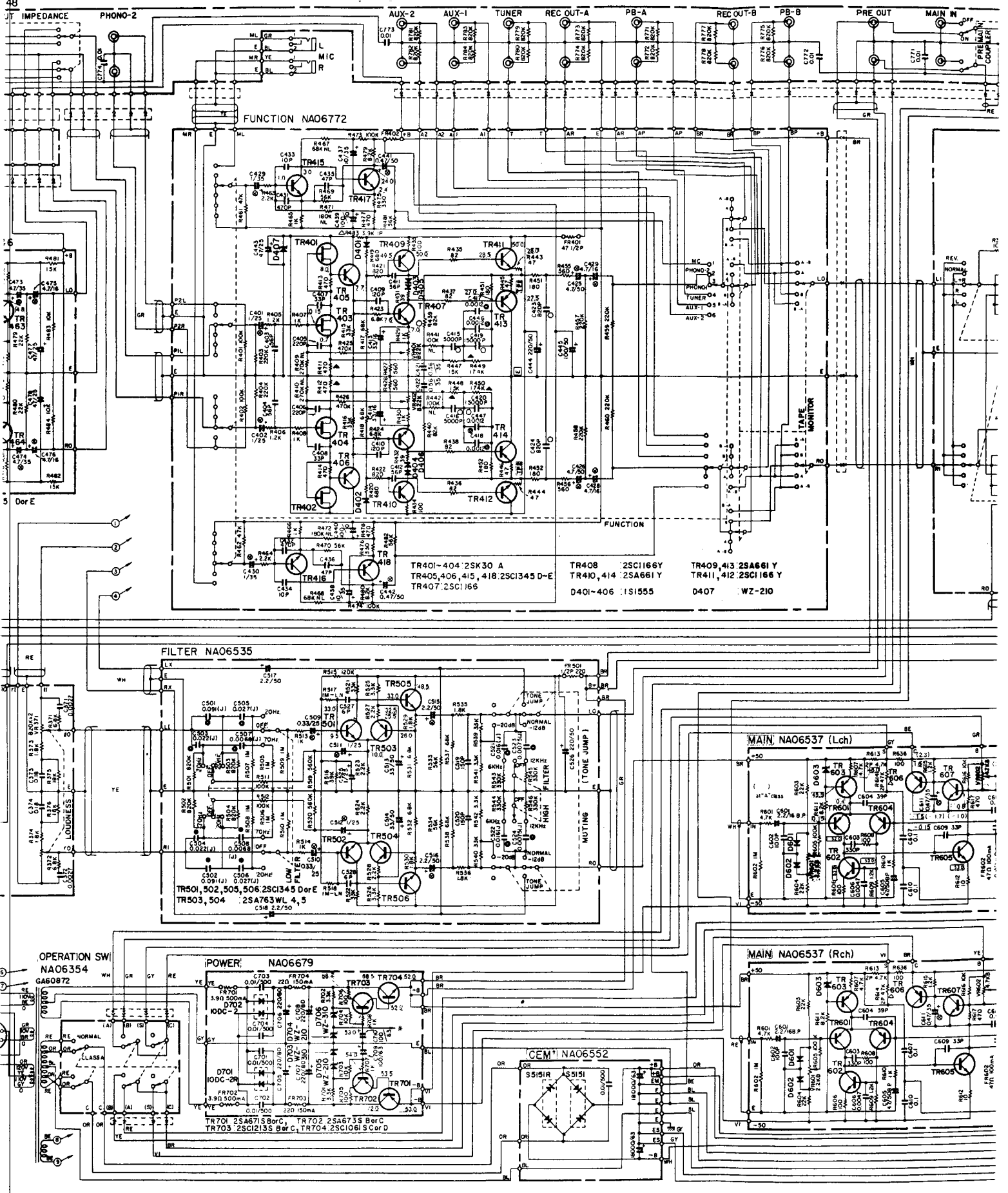
■ **WEIGHT** 15.5 kg

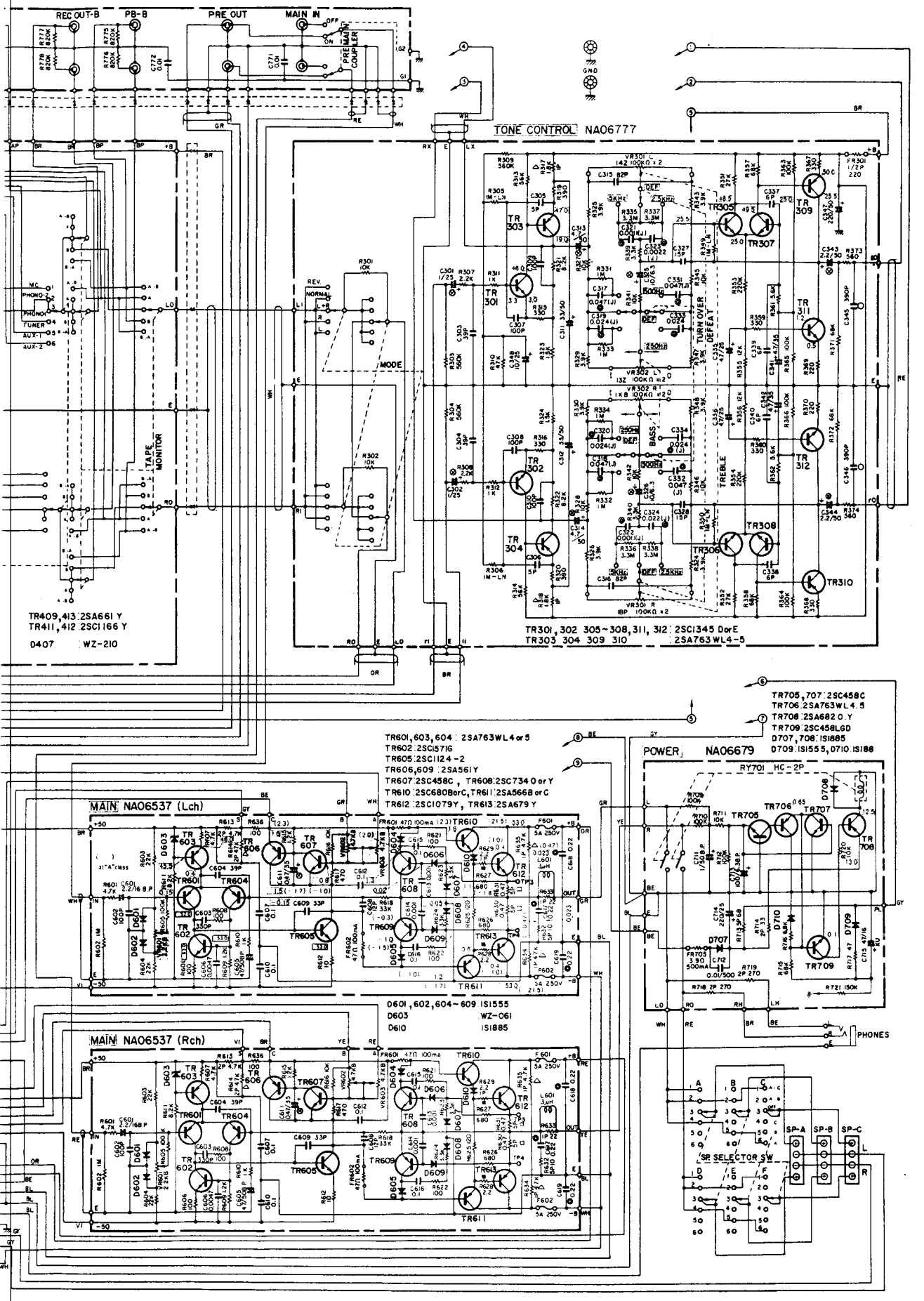
*Specifications subject to change without notice.*

# ■SCHEMATIC DIAGRAM

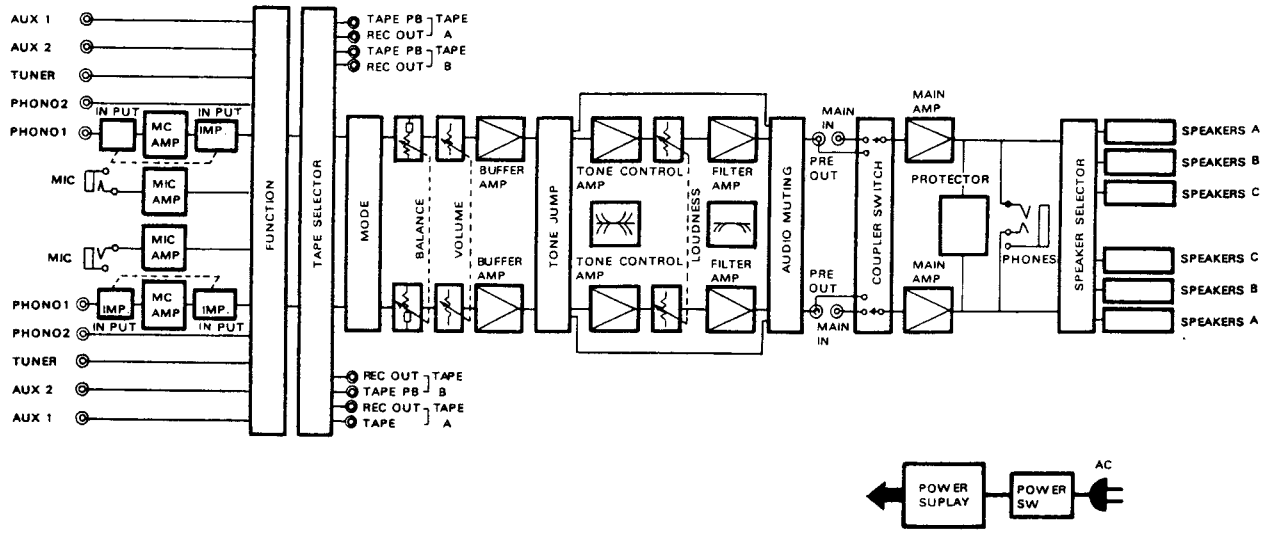


# DIAGRAM


FUNCTION NA06772
FILTER NA06535
MAIN NA06537 (Lch)
MAIN NA06537 (Rch)
POWER NA06679
OPERATION SW NA06354
CEM NA06552
PHONO-2
AUX-2
AUX-1
TUNER
REC OUT-A
PB-A
REC OUT-B
PB-B
PRE OUT
MAIN IN
TAPE MONITOR
TR401~404 :2SK30 A
TR405,406,415,418 :2SC1345 D~E
TR407 :2SC1166
TR408 :2SC1166Y
TR410,414 :2SA661 Y
D401~406 :1S1555
TR409,413 :2SA661 Y
TR411,412 :2SC1166 Y
D407 :WZ-210
TR501,502,505,506 :2SC1345 D or E
TR503,504 :2SA763WL 4,5
TR701 2SA671S B or C, TR702 2SA673S B or C
TR703 :2SC1213S B or C, TR704 :2SC1061S C or D

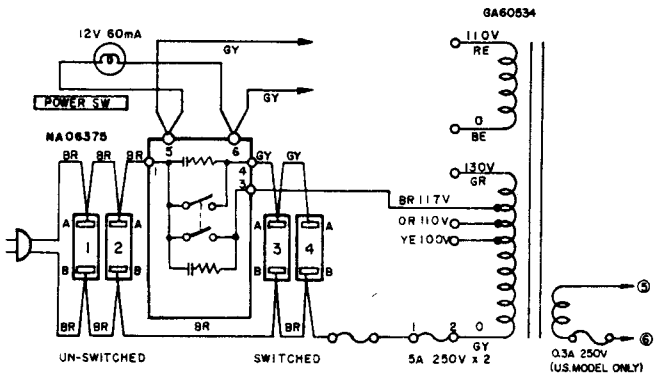

REC OUT-B
PB-B
PRE OUT
MAIN IN
TONE CONTROL NA06777
TAPE MONITOR
MODE
TR409,413 :2SA661 Y
TR411,412 :2SC1166 Y
0407 :WZ-210
TR301,302 305~308,311, 312 : 2SC1345 DorE
TR303 304 309 310 :2SA763 WL4-5
TR601,603,604 : 2SA763WL4 or 5
TR602 :2SC1571G
TR605 :2SC1124-2
TR606,609 :2SA561Y
TR607 :2SC458C , TR608 :2SC734 O or Y
TR610 :2SC680BorC, TR611 :2SA566B or C
TR612 :2SC1079Y , TR613 :2SA679 Y
MAIN NA06537 (Lch)
MAIN NA06537 (Rch)
D601,602,604~609 :1S1555
D603 :WZ-061
D610 :1S1885
TR705,707 :2SC458C
TR706 :2SA763WL4.5
TR708 :2SA682 O.Y
TR709 :2SC458LGD
D707,708 :1S1885
D709 :1S1555,D710 :1S188
POWER NA06679
RY701 HC-2P
PHONES
SP-A
SP-B
SP-C
SP SELECTOR SW

# ■BLOCK DIAGRAM

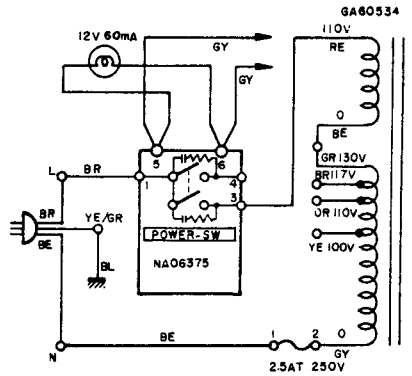



# ■PARTIAL CHANGES MADE ACCORDING TO DESTINATION

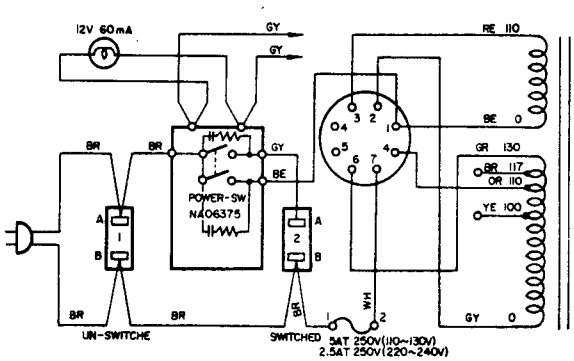
### ▼U.S. & CANADIAN MODEL



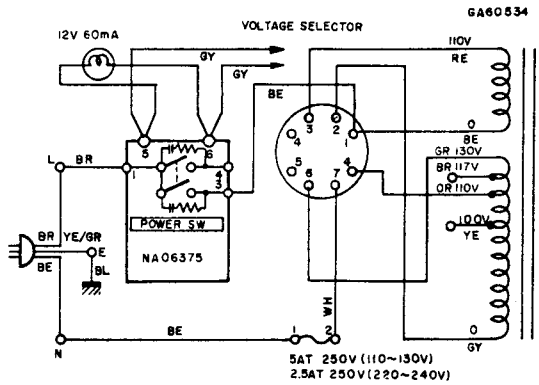

### ▼AUSTRALIAN MODEL




### ▼GENERAL MODEL




### ▼SOUTH AFRICAN MODEL



# ■ ADJUSTMENT OF EACH CIRCUIT BOARD

## BEFORE MEASUREMENT

- Turn the Pre/Main amp coupler switch Off.
- After the power switch is turned on, wait 3~4 minutes before measuring, to be sure of the most stable operation.
- Do not connect speakers or dummy load resistance to the speaker terminals.

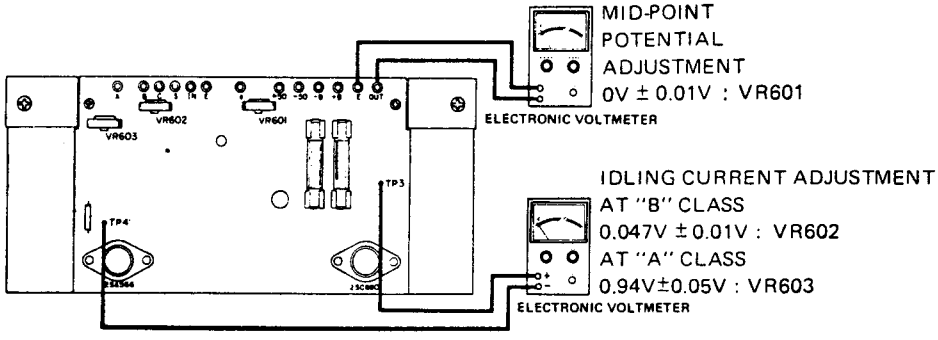
1. MAIN CIRCUIT BOARD (NA06537)

a. Mid-Point Potential Adjustment
Set the voltage between SP Out terminal and E to 0V ± 0.01V with VR601.

b. B Class Idling Current Adjustment
Set the Operation switch to Normal.
Set the voltage between TP3 and TP4 to 0.047V ±0.01V with VR602.
TP3 : (+)
TP4 : (–)

c. A Class Idling Current Adjustment
Set the Operation switch to Class A.
Set the voltage between TP3 and TP4 to 0.94V ± 0.05V with VR603.
TP3 : (+)
TP4 : (–)

d. Repeat procedures a-c above several times until each is within the allowable limits.
Note:
- Turn the volume gently during adjustment.
- Pay close attention to the polarity of each test point.




2. FUNCTION CIRCUIT BOARD

a. Equalizer SEPP Output Mid-Point Potential Adjustment.
The voltage between TP1 and TP2 on the circuit board and E should be 27.5V±0.3V (minimum potential distortion ratio).
Adjust TP1 with VR401, TP2 with VR402.
Note: • Turn the volume gently during adjustment.
• The Pre-Main coupler switch should be Off.