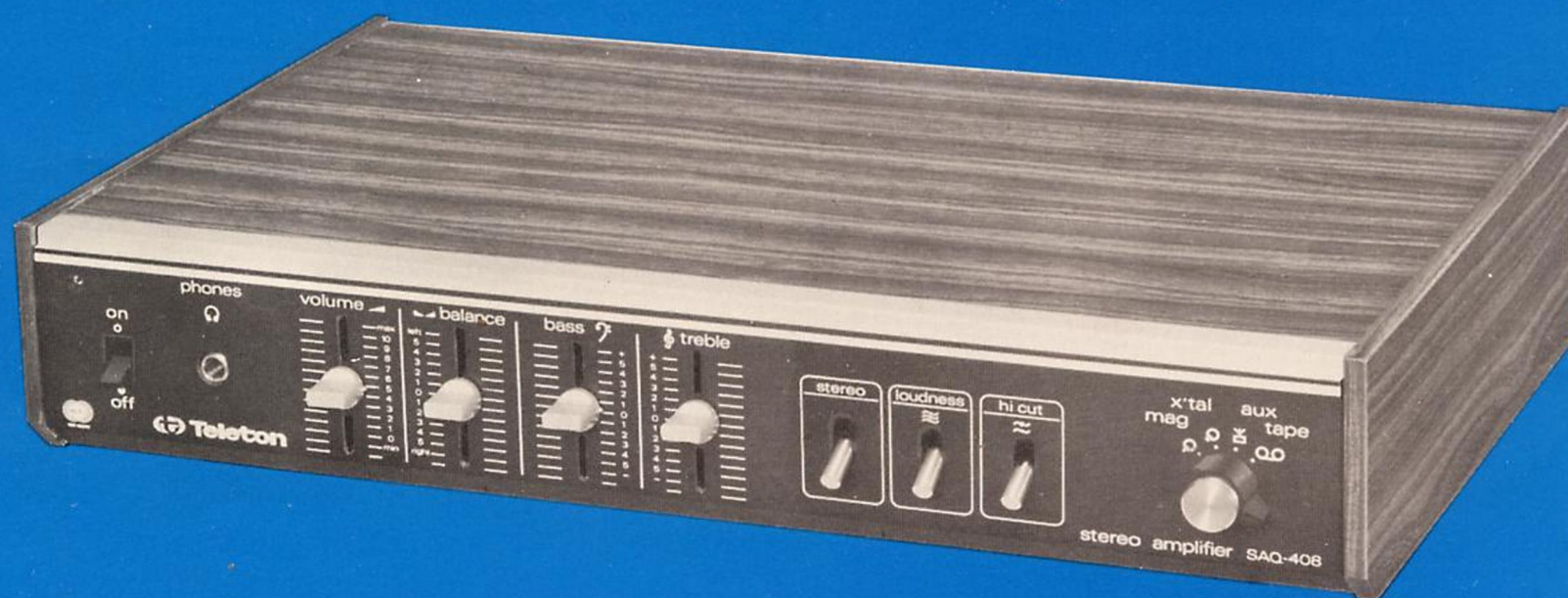




20-WATT SOLID STATE STEREO HI-FI AMPLIFIER

MODEL SAQ-408



INSTALLATION AND OPERATING MANUAL

FEATURES

1. All silicon-transistorized quasi-complementary symmetry output circuit assures high output with low distortion.
2. Specifications to meet the standard of DIN Hi-Fi 45500 for amplifiers.
3. Easy-to-operate slide controls (VOLUME, BALANCE, BASS, TREBLE), flip lever Hi-Cut Filter, Loudness and Mono-Stereo switch.
4. Deluxe and elegant design with rosewood-grain thin profile cabinet plus well contrasted black and silver brushed panel.

*** Improved!!**

With upgraded data $2 \times 10\text{W}$ at 1% THD (Limit value, typical value $2 \times 12\text{W}$)

Surpassing GERMAN DIN Hi-Fi 45500

COMPONENTS AND OPERATION

FRONT PANEL CONTROLS and SWITCHES

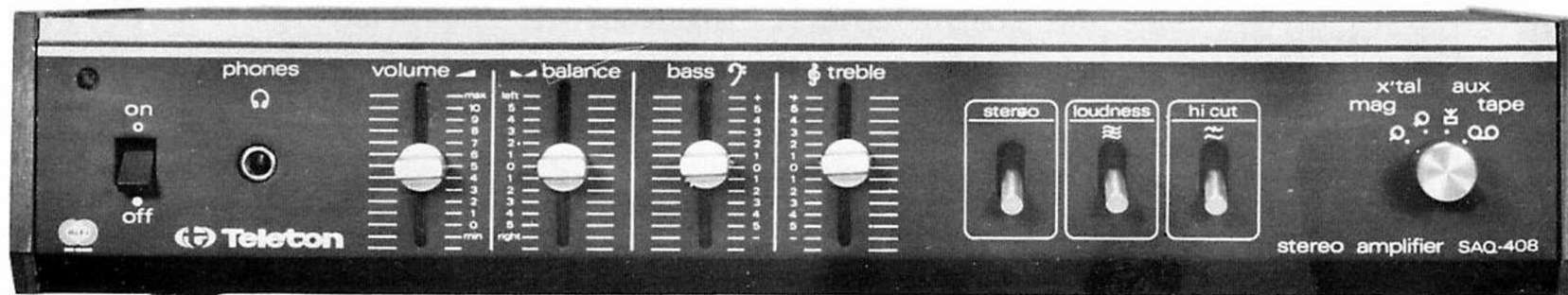


FIGURE 1

1. POWER SWITCH:

Turn the lever upwards, and the amplifier SAQ-408 is energized and the red pilot lamp lights.

2. HEADPHONE JACK:

Insert the stereo-headphone plug into this jack, and stereo-sound can be enjoyed through the headphone only with the speaker sound switched off.

3. VOLUME CONTROL:

Controls right and left volume simultaneously.

4. BALANCE CONTROL:

Slide this control upwards, and the left volume increases. Slide it downwards, and the right volume increases. Slide this control to the right and left until the music seems to come from the center between both speakers. Then, normally, this control should be near the middle position.

5. BASS CONTROL:

Controls the low frequencies. Slide this control upwards, and bass is emphasized. Slide it downwards; bass is deemphasized.

6. TREBLE CONTROL:

Controls the high frequencies. Slide this control upwards, and treble is emphasized. Slide it downwards; treble is deemphasized.

7. SELECTOR:

Selects each source;

MAG ----- Magnetic cartridge (50 K Ω imped.)

X'tal ----- X'tal or ceramic cartridge (600 K Ω imped.)

AUX ----- Tuner, etc. (100 K Ω imped.)

TAPE ----- Tape recorder (100 K Ω imped.)

8. MODE SWITCH:

This switch enables you to select STEREO or MONO mode. Turn this switch to STEREO position when the sound source is stereo and turn it to MONO position when the source is monaural.

9. LOUDNESS SWITCH:

At loudness "OFF" the frequency response of the amplifier is "linear" or "flat." However, at low volume levels, the response of the ear to both bass and treble is reduced according to the human ear's characteristics and it becomes pretty difficult to hear both bass and treble. Turning this switch on makes that both bass and treble are raised to compensate this particular effect. However, if the volume control is turned clockwise over its mid-point, the tone is "balanced" without this compensation, and the loudness switch will become ineffective.

10. Hi-Cut FILTER SWITCH:

Turning this switch on eliminates annoying hiss and noise and assures a "soft" tone when listening to old discs or tapes with low S/N ratios.

REAR PANEL CONNECTIONS

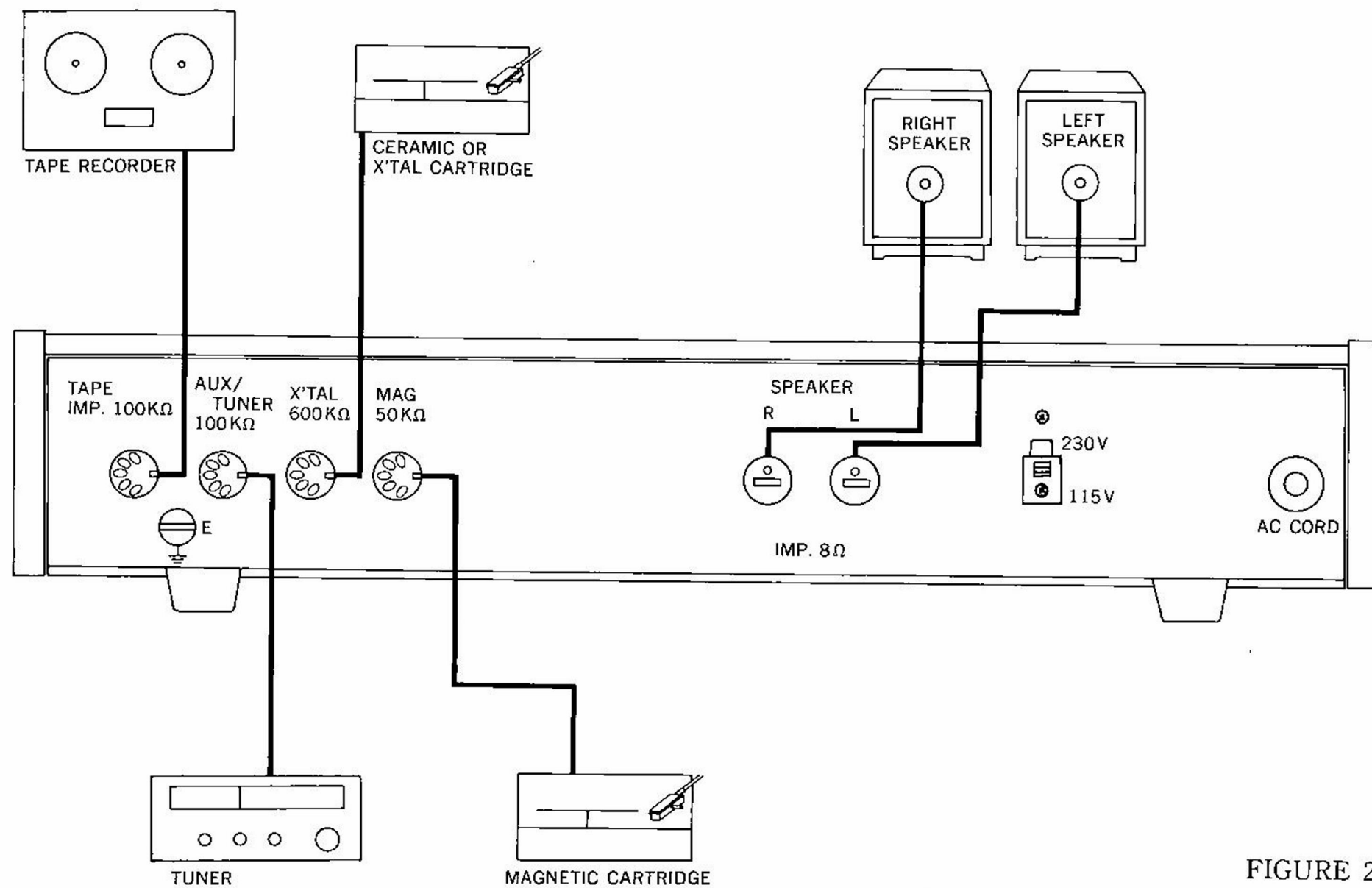


FIGURE 2

1. MAG: Magnetic cartridge input jack
RIAA curve compensation
Input impedance: 50 k Ω
Input sensitivity: 3 mV (to reach full output power)
2. X'tal: X'tal or Ceramic cartridge input jack
Input impedance: 600 k Ω
Input sensitivity: 150 mV
3. AUX: Tuner and other external input jack
Input impedance: 100 k Ω
Input sensitivity: 200 mV
4. TAPE: Input/output jack for recording and playback of tape recordings.
PLAY: Input impedance: 100 k Ω
Input sensitivity: 250 mV
REC: Output impedance: 17 k Ω
Output voltage: 47 k Ω Load 45 mV
5. SPEAKER L, R: Jacks for connecting speakers 8 Ω
L: Left channel
R: Right channel

VOLTAGE SWITCHING

The power voltages are switchable for 115 V ~ or 230 V ~ 50 Hz. The voltage can be switched by the selector switch. Contact a representative nearby. Have a serviceman do this adjustment for your voltage.

PROTECTIVE FUSE

AC INPUT FUSE

A fuse is provided in the AC primary of the power transformer to prevent damage to the components due to excessive current drain that would result from a serious malfunction in the unit. This fuse, which has a value of 700 mA, is located inside the amplifier. Blowing of this fuse will also cause the dial light to go out.

POWER TRANSISTOR FUSES (1.5 A)

Fuses are mounted for protecting the output transistors of each channel. In case the speaker output terminals are shorted, the fuses will blow. Contact a serviceman nearby if the fuses are blown, as there may be other damages.

SIMPLE TROUBLE-SHOOTING

If any trouble is encountered with your Amplifier, we recommend that you do the following simple checking yourselves:

1. Make sure the Amplifier is plugged into the correct power source (110 – 117 or 220 – 240 V, 50/60 Hz AC). Check the power indicator lamp of the amplifier. If this is not on, the AC input fuse may have failed. When replacing this fuse with one of the same correct rating, be sure to see that the voltage selector is set to the correct power voltage position.

2. Check for possible errors in control or switch settings. Make sure the SELECTOR switch is correctly set to provide the type of operation you wish.
3. If the trouble was experienced during the initial operation of the amplifier, check that all speaker plugs are properly inserted, and not internally shorted.
4. Check to make sure that your program source is not at fault if you are using a record player (CERAMIC or CRYSTAL). Make sure that the speakers are not faulty either.
5. Check the connecting cables themselves for any intermittent "open" or "short" condition.

IMPORTANT: When checking the cables, make sure that the volume control is at minimum or that the amplifier is switched off.

PERFORMANCE SPECIFICATIONS

○ Output Power		$2 \times 10\text{W}$ THD 1% 8Ω Load Continuous Output
		$2 \times 19\text{W}$ THD 1% 8Ω Load Music Output
○ Sensitivity & Input Impedance	Phono MAG	3 mV 50 $K\Omega$
	Phono X'tal	150 mV 650 $K\Omega$
	AUX	200 mV 100 $K\Omega$
	Tape	250 mV 100 $K\Omega$
○ Intermodulation Distortion		250 Hz : 8000 Hz 4:1 < 2%
○ Damping Factor		Approximately 25 (8Ω)
○ Frequency Response		$\pm 1.5\text{ dB}$ 20 Hz – 20000 Hz

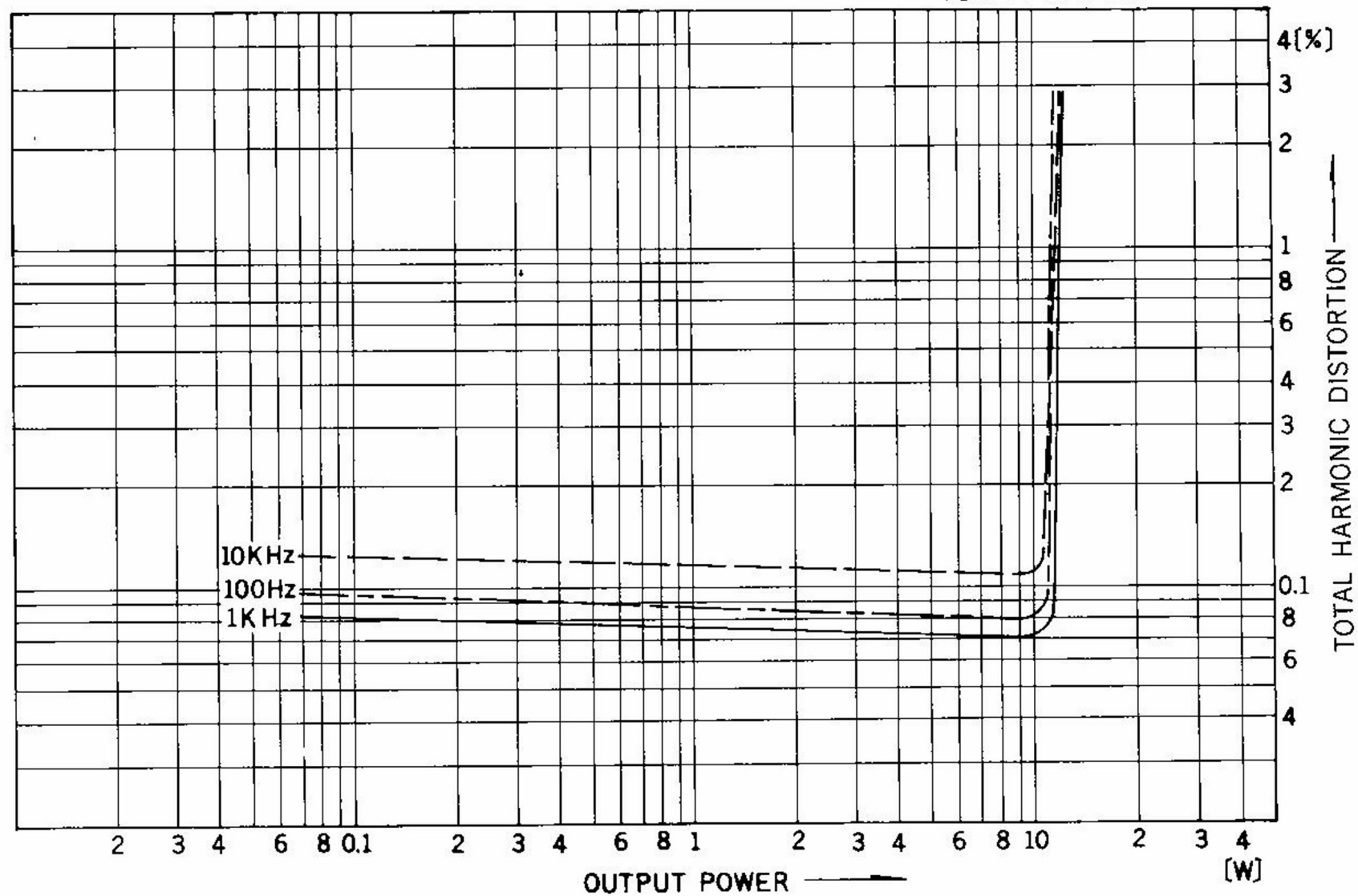
○ Tone Control Action	100 Hz Boost +10 dB Cut -10 dB
	10000 Hz Boost +10 dB Cut -10 dB
○ Hi Cut Filter Action	10000 Hz -8 dB
○ Loudness Action	100 Hz +10 dB 10 kHz + 5 dB
○ Recording Output	Output 45 mV 47 K Ω Load Output Impedance 17 K Ω
○ Headphone Output	0.5 V 8 Ω Load
○ Hum & Noise at Max. Vol B/T	$\ll$ 25 mV (-52 dB)
	AC Power Switch (Lever type)
○ Controls	Volume Control (Slide type) Balance Control (Slide type) Bass Control (Slide type) Treble Control (Slide type) Mode Switch (Lever type) Loudness Switch (Lever type) Hi Cut Switch (Lever type) Function Switch (Rotary type)
○ Semiconductors	18 Transistors 2 Diodes 2 Rectifier Diodes
○ Power Requirements	110-117V or 220-240V 50/60 Hz 80 W MAX.
○ Dimensions	(W) 390 mm $\times$ (D) 230 mm $\times$ (H) 81 mm
○ Net Weight	3.5 kg

OUTPUT POWER

INPUT : AUX/TUNER

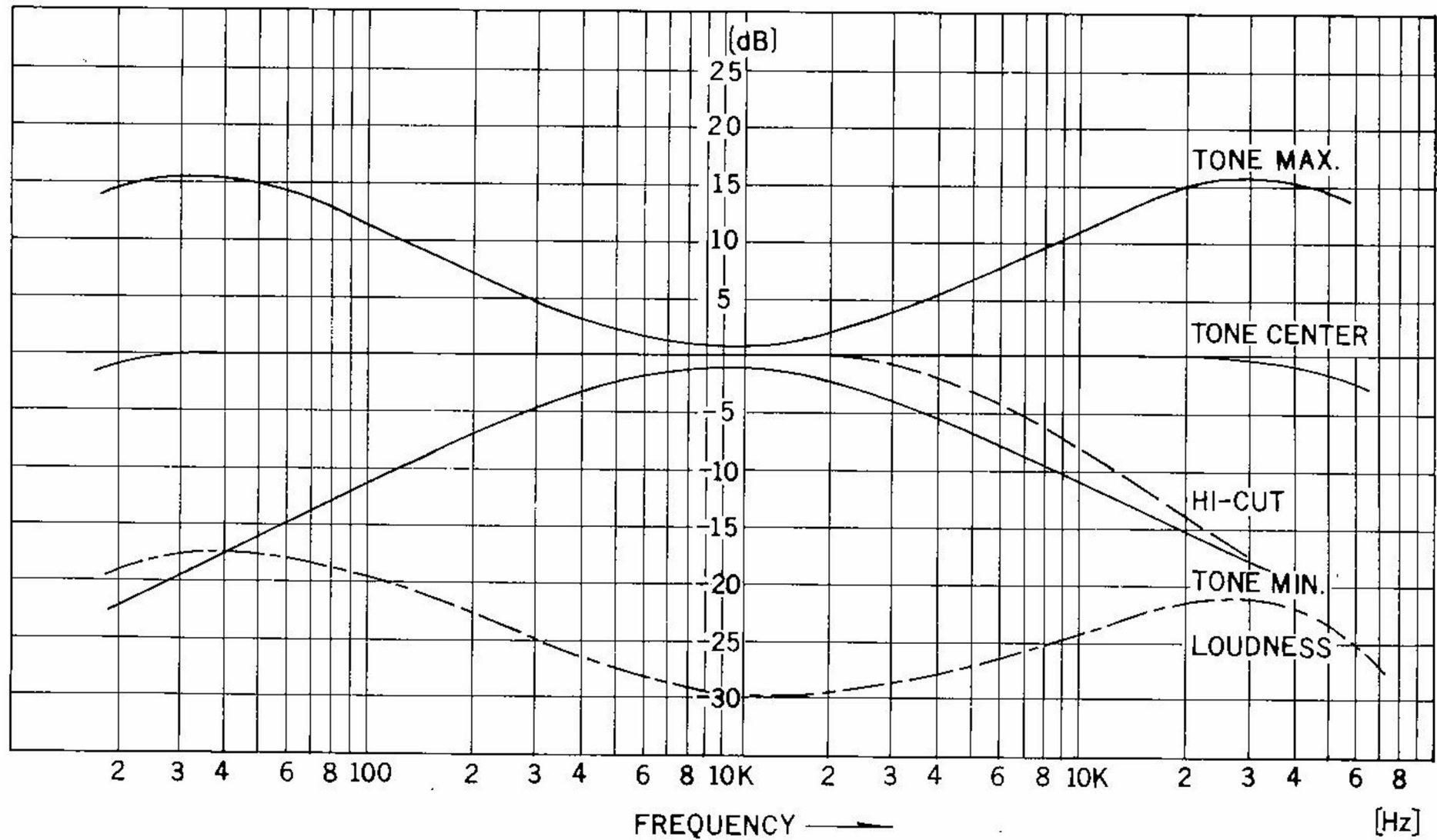
LOAD : 8Ω

tone : CENTER



FREQUENCY RESPONSE

INPUT : AUX TUNER, TAPE



Guarantee

TELETON guarantees the equipment referred to in this document as follows:—

All component parts against failure (other than through misuse or fair wear and tear) for a period of **TWO YEARS** from date of purchase.

For **SIX MONTHS** from date of purchase no charges will be made for labour incurred in implementing the guarantee when the unit is returned to Teleton for repair.

To ensure that you benefit from this guarantee you should note that:—

- 1) This form must be completed and dated by the dealer from whom the unit is purchased **at the time of sale.**
- 2) Whenever possible the unit should be returned for repair via the original dealer.
- 3) This form **must** accompany the faulty unit together with a full description of the complaint, **otherwise a charge will be raised.**
- 4) Any unauthorised modification to the unit may invalidate this guarantee.

MODEL: **SAQ-408**

SERIAL No.:

Date:

Dealer's Name and Address

Purchaser's Name and Address

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If for any reason this equipment can not be repaired via the dealer from which it was bought. It may be sent for such repair to

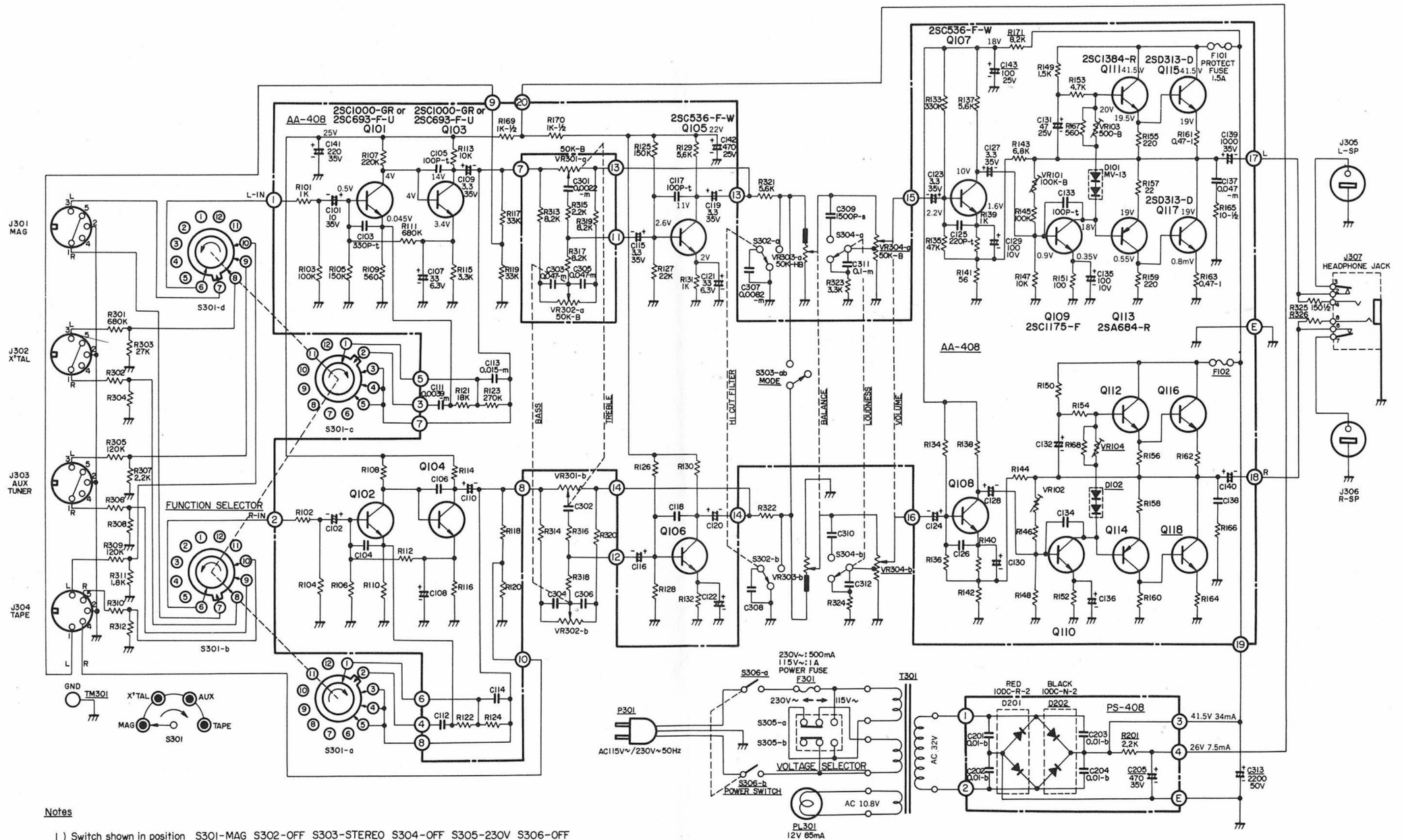
Technical Services Organisation Waterhouse Lane Chelmsford Essex
Telephone No (0245) 54621, Telex NBR 99338.

TELETON

SA-408

SCHEMATIC DIAGRAM

IDENTISCH MIT a 300



Notes

- 1) Switch shown in position S301-MAG S302-OFF S303-STEREO S304-OFF S305-230V S306-OFF
- 2) This schematic diagram is subject to partial change without notice
- 3) All resistor values are indicated in Ω ($K=10^3$) ($\pm 10\%$) (): Tolerance
- 4) All capacitor values are indicated in μF ($P=10^{-9}$)
 - t - Ceramic capacitor ($\pm 10\%$)
 - - - - - Chemical capacitor ($\pm 150\%$)
 - b - Ceramic capacitor ($\pm 100\%$)
 - s - Polystyrene capacitor ($\pm 10\%$)
 - m - Mylar capacitor ($\pm 10\%$)

Voltage Values: at Volume Minimum