

# HK670

## Integrated Amplifier

### PRELIMINARY

### Service – Technical Manual



# Introduction

**Congratulations** on your choice of the Harman Kardon HK670 Integrated Amplifier.

In order to obtain the best performance from this integrated amplifier, please be sure to read this owner's manual and use your integrated amplifier only in accordance with its instructions.

The special features of this unit include:

## HCC

### (High Instantaneous Current Capability)

The amplifier sections react rapidly to musical transients, providing the instantaneous current necessary to precisely drive and control nearly any loudspeaker system.

## Ultrawide Bandwidth

The bandwidth of this unit is exceptionally wide and is independent of negative feedback. This improves transient accuracy and phase linearity.

## Low Negative Feedback

This unit has been designed to have low distortion and wide bandwidth without high negative feedback. This further improves its dynamic accuracy.

## Discrete Component Circuitry

In order to achieve the above goals, all discrete electronic circuitry has been employed. No available integrated circuits could provide this high level of performance.

## Sophisticated Electronic Protection Circuitry

Harman Kardon's unique protection circuitry guards the amplifier from short circuit or damaged speakers and wires, without impairing sound quality by the use of current limiting or output relays.

## General instructions

### Always Use at 230V AC

This unit is designed for operation with 230V AC. Use only domestic AC outlets. Connecting the unit to an outlet supplying a higher voltage may create a fire hazard.

### Handle the Power Cord Gently

Do not disconnect the plug from the AC outlet by pulling the cord; always pull the plug itself. Pulling the cord may damage it. If you do not intend to use your unit for any considerable length of time, turn the unit off completely by pressing the round Power button above "Power" (see page 5). Do not place furniture or other heavy objects on the cord, and try to avoid dropping heavy objects on it. Also do not tie a knot in the power cord. Not only may the cord be damaged, it can also cause a short circuit with a consequent fire hazard.

### Place of installation

Place the unit on a firm and level surface. Avoid installing your unit under the following conditions:

- Moist or humid places.
- Places exposed to direct sunlight or close to heating equipment.
- Extremely cold locations.
- Places subject to excessive vibration or dust.
- Poorly ventilated places.

Do not obstruct the ventilation slots on the top surface of the unit by placing objects on them. Otherwise, the temperature inside the unit may rise, possibly affecting its long-term reliability.

## Moving the Unit

Before moving the unit, be sure to pull out the power cord from the AC outlet and disconnect the interconnection cords with other units.

## Do Not Open the Cabinet

To prevent shock hazard, do not tamper with internal components for inspection or maintenance. Harman Kardon does not guarantee against performance degradation resulting from any modification. If water, a hairpin or wire accidentally enters the unit, immediately pull the plug from the AC outlet to prevent shock and consult an authorized Harman Kardon service station. If you use the unit under this condition, it may cause a fire shock hazard.

## Cleaning

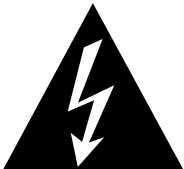
If the unit gets dirty, wipe it with a soft dry cloth. If necessary, wipe it with a soft cloth dampened with mild soapy water and then with a dry cloth. Never use benzene, thinner, alcohol or other volatile agents, and avoid spraying an insecticide near the unit.

## Warning Signs


If you detect an abnormal smell or smoke, immediately turn the amplifier off and unplug the power cord. Contact your dealer or nearest Harman Kardon service center.

## Packaging


Save all packing material. It is essential for shipping, should you move, or in the event the unit ever needs repair.




**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



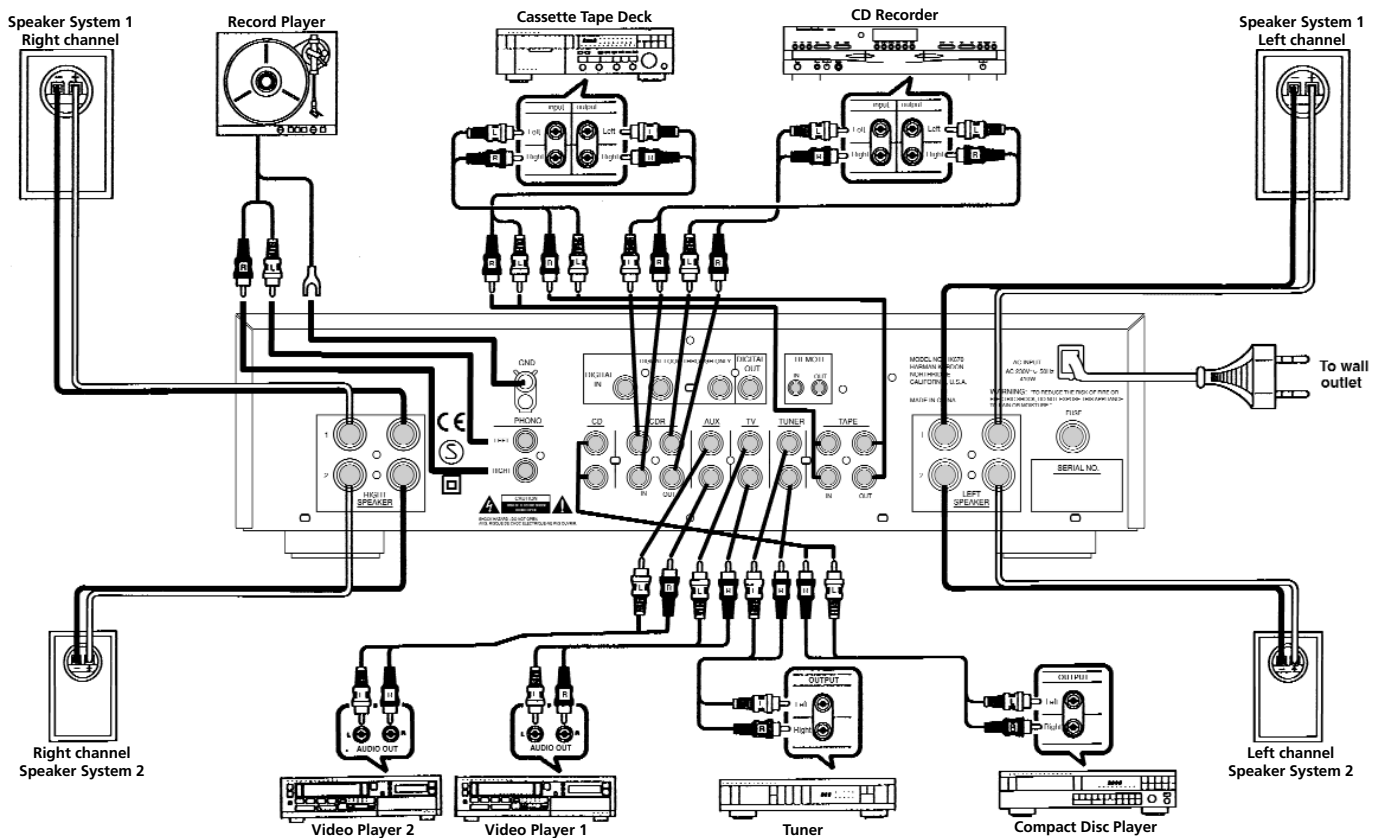
The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

# Connections



## Connecting Other Components

1. Make sure your amplifier and other components are turned off.
2. Connect each component's Output/Play jacks to the corresponding Input jacks on the back of your amplifier and, if available, the component's Input/Record jacks to the Output jacks of the HK670. Use the white, black or gray plugs to connect Left channel jacks; use the red plugs for Right channel jacks.
3. A record player with MM cartridge must be connected to the Phono Input jacks and a separate ground wire to the ground terminal screw above.

## Wired Remote Control

To control your amplifier with an external infrared remote sensor, connect the wire from the remote sensor to the REMOTE IN jack on the back panel. Or, if another stereo component has a built-in infrared remote sensor and a Remote Output jack, it may be possible to connect this jack to the REMOTE IN jack of your amplifier. All Harman Kardon products with »Remote In« and »Remote Out« jacks are compatible with one another, except for the Citation 22, 24 and 25. Other manufacturers' remote sensors and components may not be compatible, but it will not hurt to experiment. A second wire may be used to connect your amplifier's REMOTE OUT jack to the Remote Input of another stereo component.

Continue this process to include additional components (if compatible).

## Connecting Speakers

1. For best performance, use high quality speaker cables. However, ordinary copper wire can be used if the gauge meets the following requirements:

Wire Length	Min. Diameter
Up to 2.5 meter	1 mm
Up to 4 meter	1.25 mm
Up to 6 meter	1.6 mm
Above 6 meter	2-2.5 mm

2. Avoid rolling excess wire with or near signal interconnects.

**IMPORTANT:** When connecting two pairs of speakers, determine the impedance of each pair by looking on the back of the speakers, in your owner's manual, or by contacting your dealer or manufacturer.

**You can listen to two pairs of speakers at the same time ONLY if the impedance of EACH speaker is NOT LESS THAN 8 Ohms.**

**WARNING:** Do not play sets of speakers simultaneously except as recommended above. Amplifier may overheat.

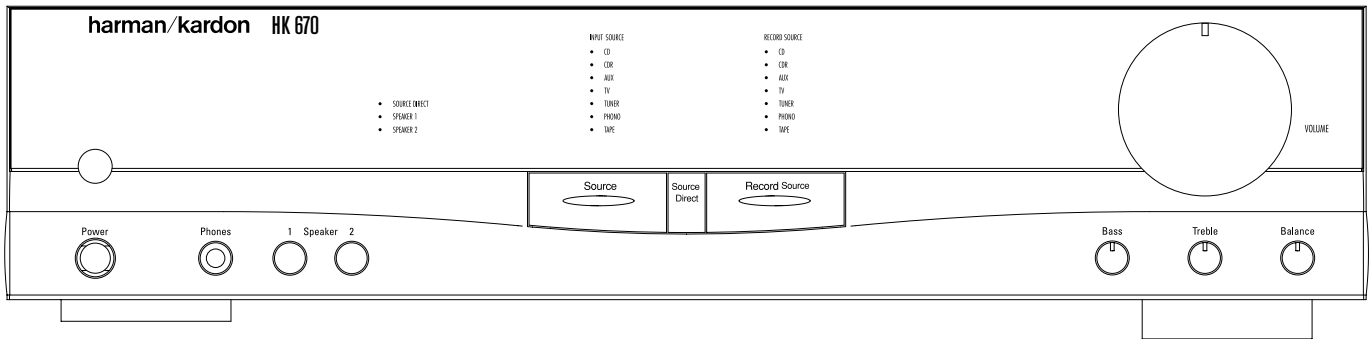
## Digital Loop-Through

Digital inputs and outputs are provided only as a convenience for connecting various digital components to the "CD", "CDR" and "AUX" digital inputs. The corresponding digital input signal is fed to the "DIGITAL OUT" connector when "CD", "CDR" or "AUX" is selected as input source, to provide a digital signal for CD or MD Recorders. The HK670 cannot process, decode or convert any digital signal.

## AC Power

Plug the cord into a 230 VAC wall socket.

# Controls and Functions



### Power switches

Press the round Power button (above "Power") to turn the amplifier on for the first time. The status LED behind the flat "Power" button will turn orange. Once the unit has been turned on with the round power button, this button should be left on for normal use and only turned off when the amplifier will not be used for extended periods of time (vacation, etc.). For daily use, press the flat "Power" button to turn the amplifier on or off (Standby). In Standby the LED will glow orange, indicating that the unit is still connected to AC mains and can be turned on from the remote control or with the flat "Power" button.

### Headphone Jack

Plug in headphones if desired. With both "Speaker 1" and "2" selectors in the Off position, output is supplied only to headphones.

### Speaker 1/2 Selectors

Press to select speaker pair 1 or 2, or both, or neither (headphone output only).

### Input Source Selector

Select desired input source for listening by pressing the "Input Source" button repeatedly (on the left will select upwards, right downwards) until the indicator for the desired source is illuminated.

### Record Source Selector

Select desired source for recording to device connected to the rear panel Tape and CDR Out sockets by pressing the "Record Source" button repeatedly until the indicator for the desired source is illuminated.

### Bass Control

Turn to increase or decrease the amount of low frequency sound.

### Treble Control

Turn to increase or decrease the amount of high frequency sound.

### Balance Control

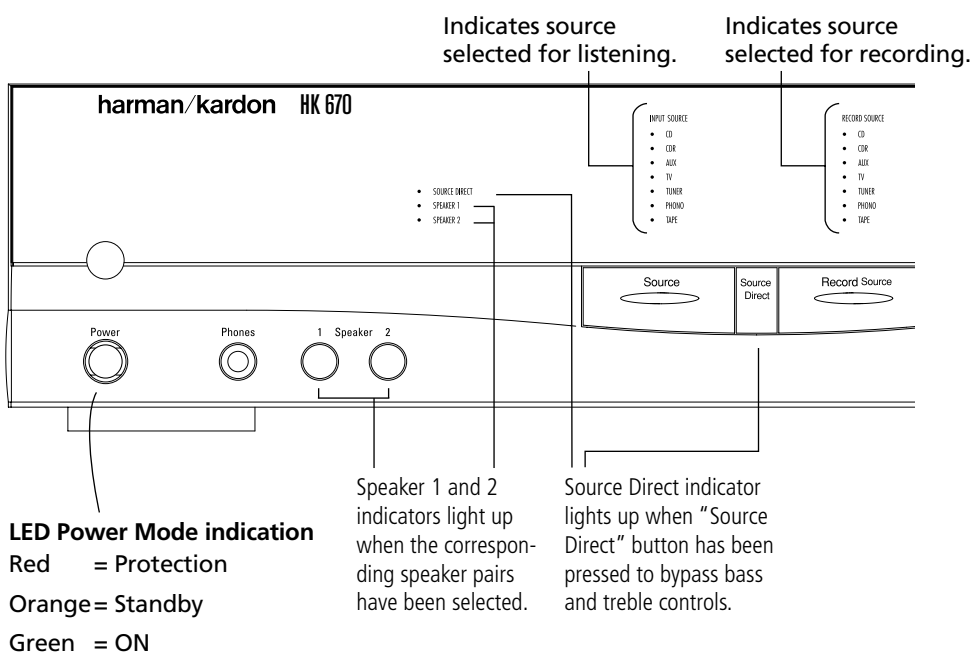
Turn to adjust relative output level of left and right speakers.

### Volume Control

Turn to raise or lower output volume.

### Source Direct

Press to bypass tone control circuitry.



# Remote Control

## Independent Remote Control

The system remote of the HK670 can control the amplifier and compatible Tuners, CD Players and CD Recorders. The remote In jack of units without an integrated IR receiver must be connected to the amplifier's remote control output jack so that the system remote control can operate them.

The Function Table below will show all functions of the HK670 and external devices that can be controlled by the HK670 remote.

## Important Notes:

- For controlling a tuner (only needed for the numeric buttons), CD Recorder or CD Player the appropriate input ("TUNER", "CDR" or "CD") must have been selected with the source buttons of the remote control (selecting on the front panel is not sufficient).
- Note that DVD players or tape decks cannot be controlled by the remote.
- To control a compatible CD Recorder "CDR" must be selected as input and the drive to be controlled (CDP or CDR) must be selected appropriately with the "CDP SELECT" or "CDR SELECT" buttons.

## Operating Conditions

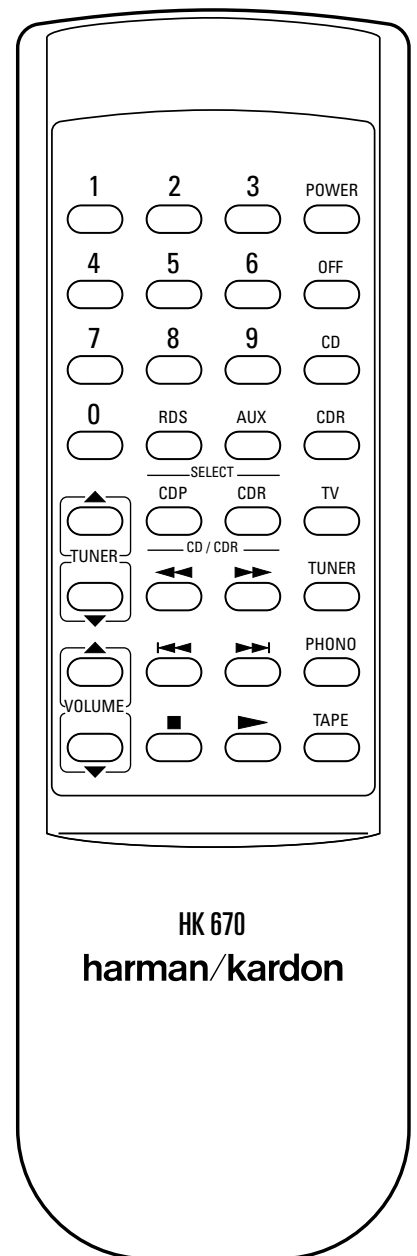
The control unit operates effectively within a distance of 7 meters and an angle of 30° from the amplifier. Using the control near fluorescent lights may shorten this range, as will any dust or dirt that accumulates on the front of the remote control or the remote sensor area of the amplifier. Also avoid blocking the line of sight between amplifier and remote.

The control unit is powered by two AA batteries, included with your amplifier. When you replace weak batteries, replace both at the same time. When the remote is to be unused for an extended period, remove the batteries to prevent damage from corrosion.

## Remote button functions

Button	HK670	CD Player	CD Recorder	Tuner
POWER/OFF	Power On/Off	-	-	-
⏩ (Fast Forward)	-	Fast Forward	Fast Forward	-
⏪ (Fast Reverse)	-	Fast Reverse	Fast Reverse	-
⏮ (Skip Reverse)	-	Skip Reverse	Skip Reverse	-
⏭ (Skip Forward)	-	Skip Forward	Skip Forward	-
⏹ (Stop)	-	Stop	Stop	-
▶ (Play)	-	Play	Play	-
0 ~ 9 (Numeric Buttons)	-	Track Select	Track Select	Preset Select
CD	Source Select	-	-	-
CDR	Source Select	-	-	-
AUX	Source Select	-	-	-
TV	Source Select	-	-	-
TUNER	Source Select	-	-	-
PHONO	Source Select	-	-	-
TAPE	Source Select	-	-	-
CDP SELECT	-	-	CDP Drive Select <sup>1)</sup>	-
CDR SELECT	-	-	CDR Drive Select <sup>1)</sup>	-
RDS	-	-	-	RDS Display Select
TUNER II ▶	-	-	-	Tuning Up
TUNER II ◀	-	-	-	Tuning Down
VOLUME II ▶	Volume Up	-	-	-
VOLUME II ◀	Volume Down	-	-	-

<sup>1)</sup> Only needed with CD Recorders



# Operating Instructions

## Listening to your CD player, tape deck, tuner or other source

1. Turn Volume control to minimum level and press the round Power button (above "Power") to turn the unit to Standby, the power indicator below will light orange. Then press the flat Power switch to turn on the amplifier. The power indicator lights red for a few seconds, while the protection circuitry checks for short circuit or other problems, and then it lights green.
2. Press "Speaker 1" to hear loudspeakers connected to the rear Speakers 1 terminals. Press "Speaker 2" to hear loudspeakers connected to the rear Speakers 2 terminals. Press both to hear both speaker pairs at once. To listen to headphones only, press to turn off any active speaker pair.
3. Select desired source for listening by pressing the front panel Source button repeatedly until the indicator for the desired source is illuminated or by pressing the desired Source button on the remote.

4. Begin playing the desired source.
5. Adjust the Volume control to the desired level.
6. Adjust Bass, Treble and Balance controls as desired (the Source Direct function must be turned off).
7. Press "Source Direct" until the "Source Direct" indicator lights up to bypass the tone control and balance circuitry to ensure purest sound performance. Press again to turn the bypass function off and to make the tone and balance controls function again.

## Making a recording

You may record any source to tape or to CD-R or to both simultaneously. You may also connect a second tape deck to the CDR inputs and outputs to record from tape to tape (in either direction).

To select the desired source for recording (this can be a different source than the one being listened to), press the "Record Source" button on the front panel repeatedly until the indicator for the desired record source is illuminated.

NOTE: The record output signal is taken directly from the program source and is unaffected by the Volume, Bass, Treble or Balance controls.

### Important Notes:

- The functions "Source Direct" and "Record Source" can be selected on the front panel only, not from the remote control.
- 3-head cassette decks with monitoring function can be connected to "Tape" or "CDR" connectors too, but their monitoring function cannot be used.

## Troubleshooting

This unit is designed for trouble-free operation; most problems users encounter are due to operating errors. So if you have a problem, first check this list for a possible solution. If the problem persists, consult your authorized Harman Kardon service center.

### If the problem is...

No lights illuminate when power cord is plugged into AC outlet.

### Make sure that...

- The unit is plugged into a live outlet.
- The round power button above "Power" on the front panel is pressed in.

No sound is heard.

- Speaker switches corresponding to the desired speakers are pressed.
- Correct source button has been pressed.
- Volume is turned up.
- Speaker wires are connected properly.
- Hook-up wires to source component are connected properly.

Sound is not heard from the speaker system on one side.

- The speaker wires and connection wires are connected correctly.
- The balance control knob is set to the center.

When listening to stereo sound, the left and right sounds are reversed.

- The speaker wires are connected correctly.
- The wires between components are connected correctly.

Intermittent or continuous buzzing or hissing.

- The unit is away from fluorescent lights, TV, motors and other electrical appliances.

The remote control and front panel controls don't appear to work.

- Disconnect the AC line cord from the wall socket, wait 5 minutes and then re-connect it.

Humming noise when listening to LP

- Ground wire from record player has been connected to ground terminal on amplifier.
- Cable from record player is away from power cords and speaker cables.

Howl or ringing when listening to LP.

- Record player is not too close to speakers.
- Record player is on stable surface.

Low sound level when listening to LP.

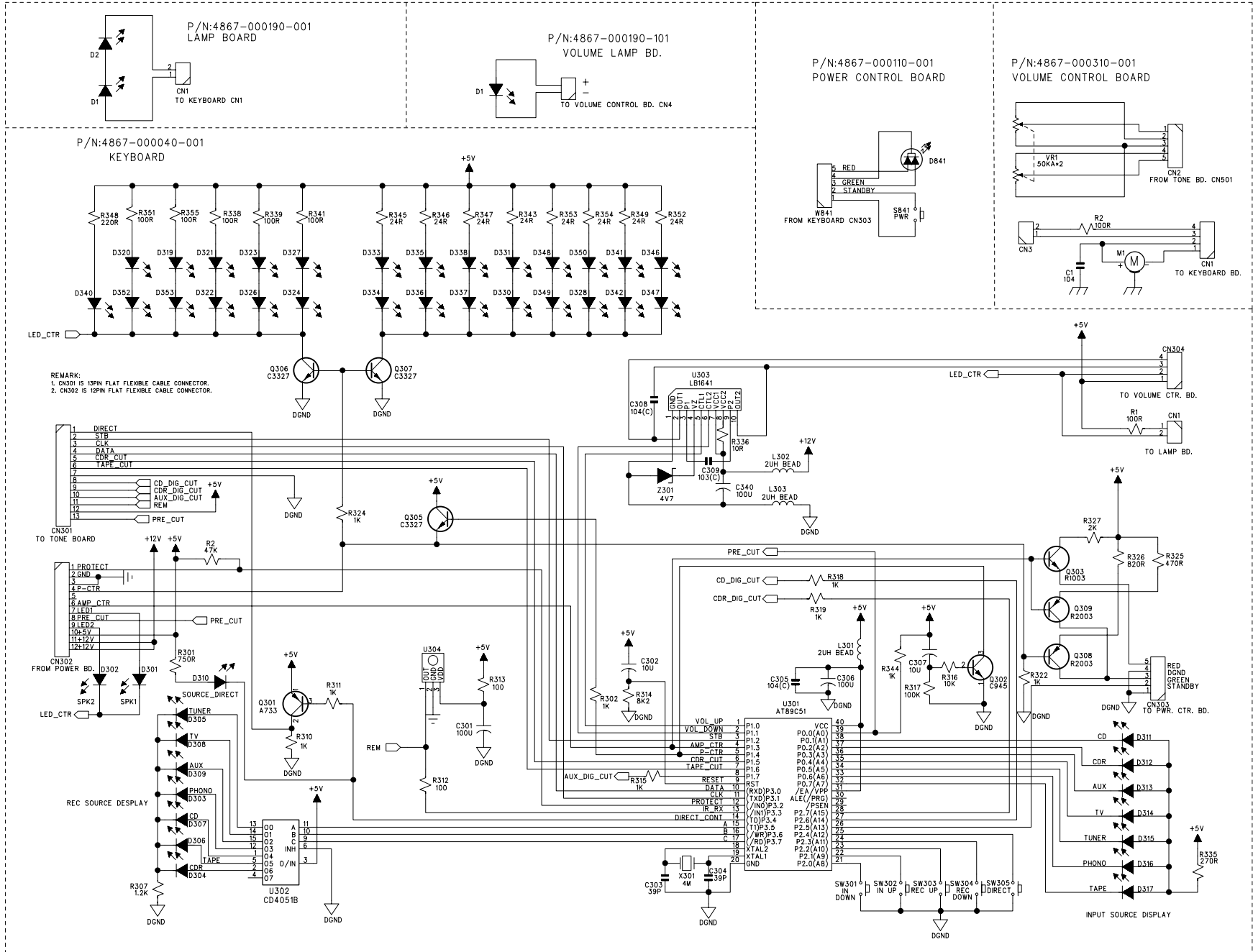
- Cable from record player is connected to the Phono jacks.
- The phono cartridge is MM, not MC.

## Specifications

Continuous Average Power Per Channel (FTC) 20 Hz – 20 kHz, both channels driven	8 Ohms:	<b>NOMINAL</b> 80 Watts@<0.09%THD
	4 Ohms:	120 Watts@<0.3%THD
Dynamic Power (IHF, 1 kHz Tone Burst)	8 Ohms:	115 Watts
	4 Ohms:	200 Watts
	2 Ohms:	310 Watts
High instantaneous current capability (HCC)		±75 Amps
Power Bandwidth @ Half-Rated output, 8Ω		<10 Hz - 150 kHz
Frequency response @ 1W (+0/-3dB)		5 Hz - 150 kHz
Damping factor (20Hz-20k Hz)		>125
Signal-to-noise Ratio (Reference rated power output, A-WTD)	Tuner/CD	95 dB
	Phono (MM):	75 dB
Input sensitivity/Impedance	Tuner/CD	270mV/43k Ohms
	Phono (MM):	4.0mV/47k Ohms
Overload:	Tuner/CD	6V
	Phono (MM):	110 mV
Tone control range, Bass @ 50 Hz/Treble @ 10 kHz		±10 dB/±10 dB
Power supply:		AC 230V, 50/60 Hz
Power consumption:		345 W
Dimensions (Width X Height X Depth):		439 X 110 X 395 mm
Weight:		10.35 kg

# KEY Control Board

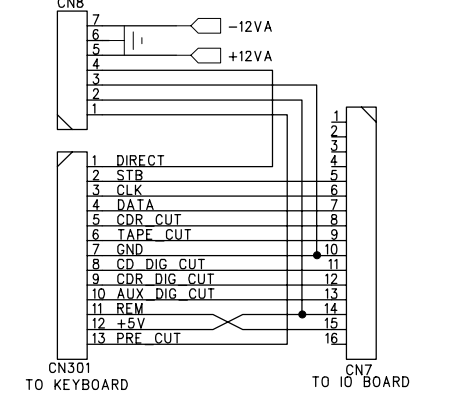
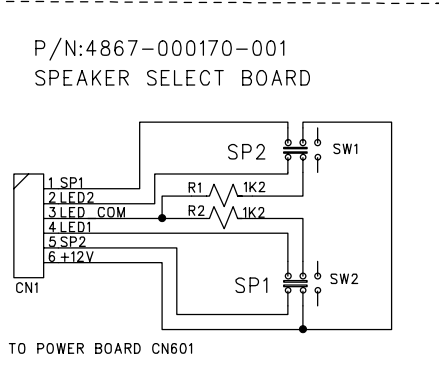
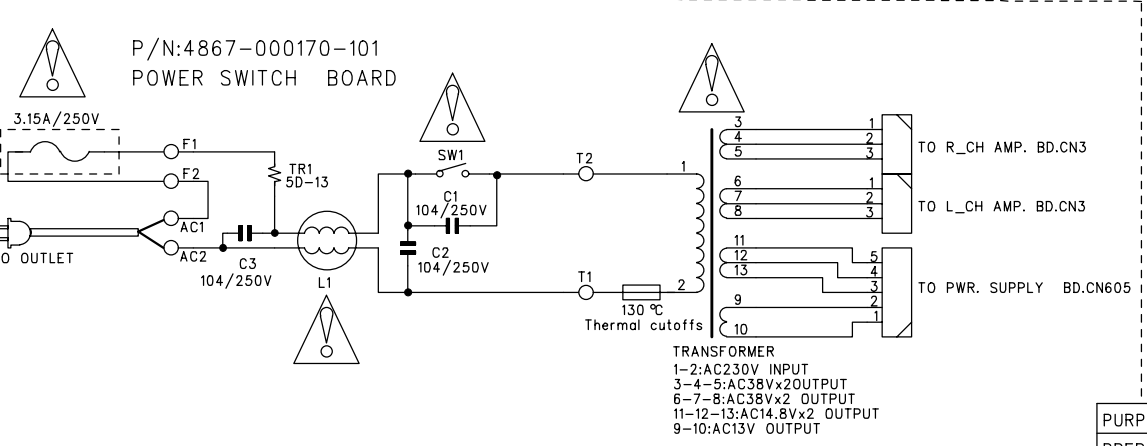
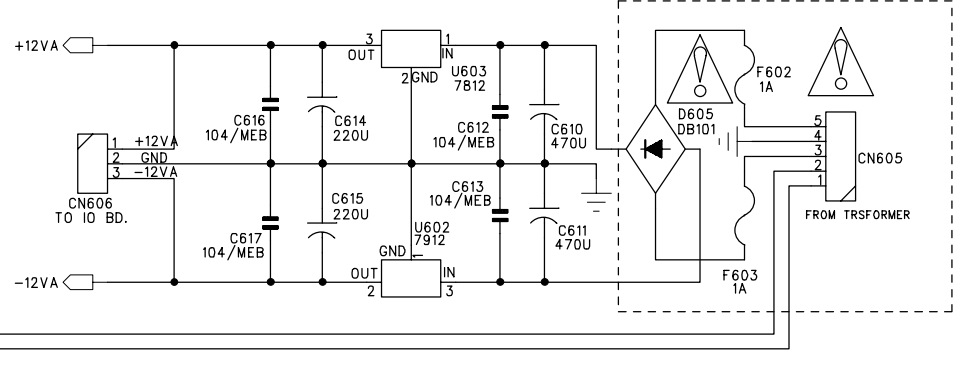
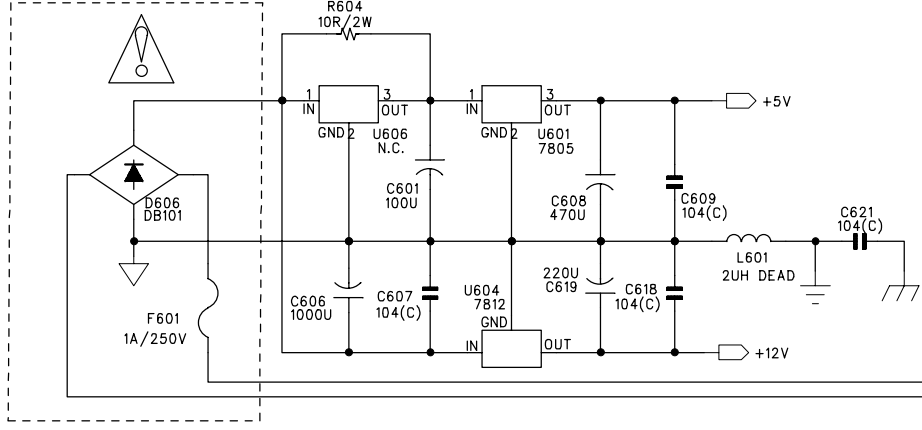
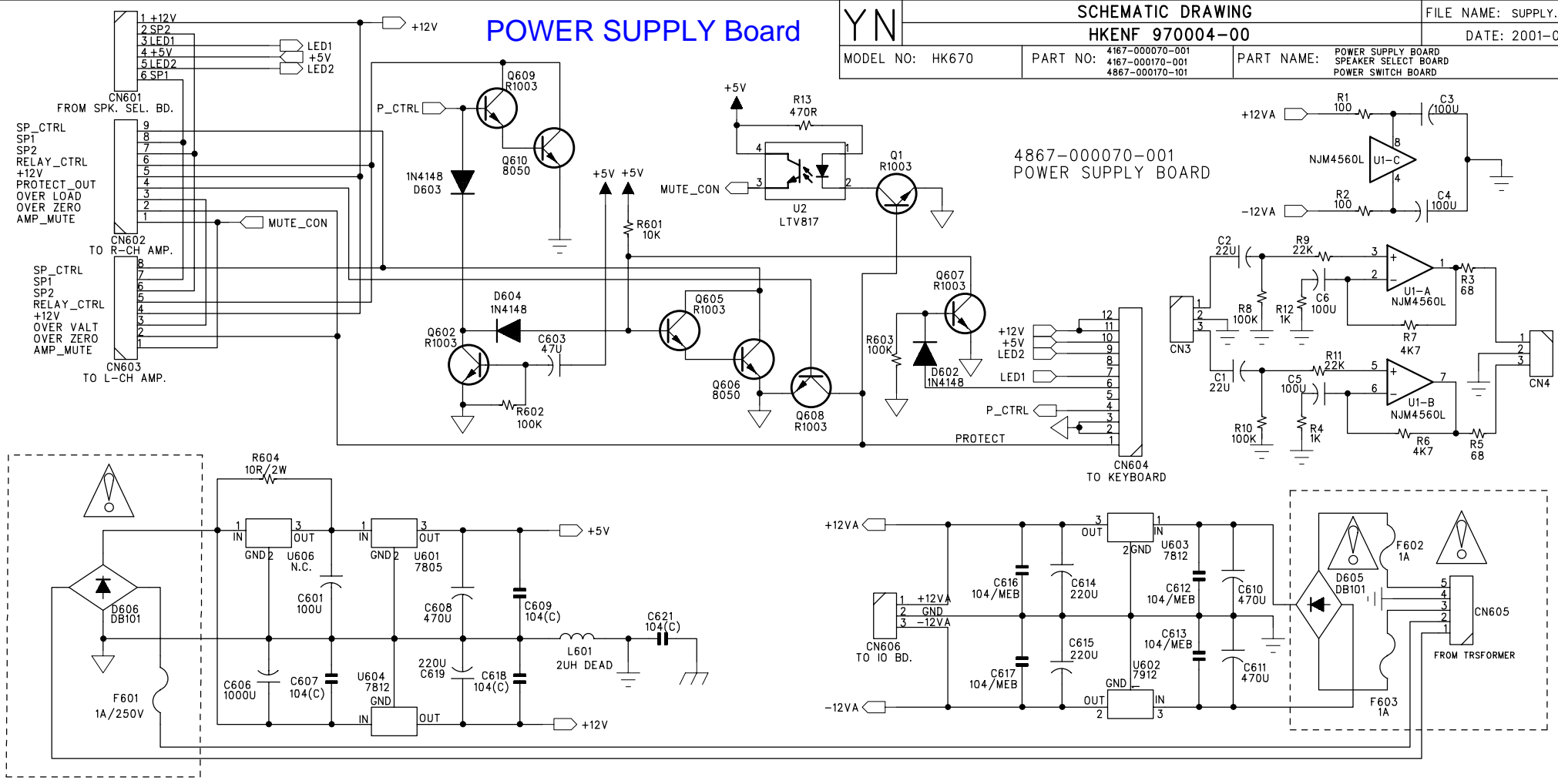
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	HKENF 970004-00		DATE: 2001-07-14
MODEL NO: HK670	PART NO: 4867-000045-001 4867-000190-001 4867-000310-001 4867-000190-001	PART NAME: KEYBOARD POWER CONTROL BOARD VOLUME CONTROL BOARD LAMP BOARD VOLUME LAMP	



REMARK:  
1. CN301 IS 13PIN FLAT FLEXIBLE CABLE CONNECTOR.  
2. CN302 IS 12PIN FLAT FLEXIBLE CABLE CONNECTOR.



### POWER SUPPLY Board



# DIGITAL INPUT / OUTPUT Board

YN

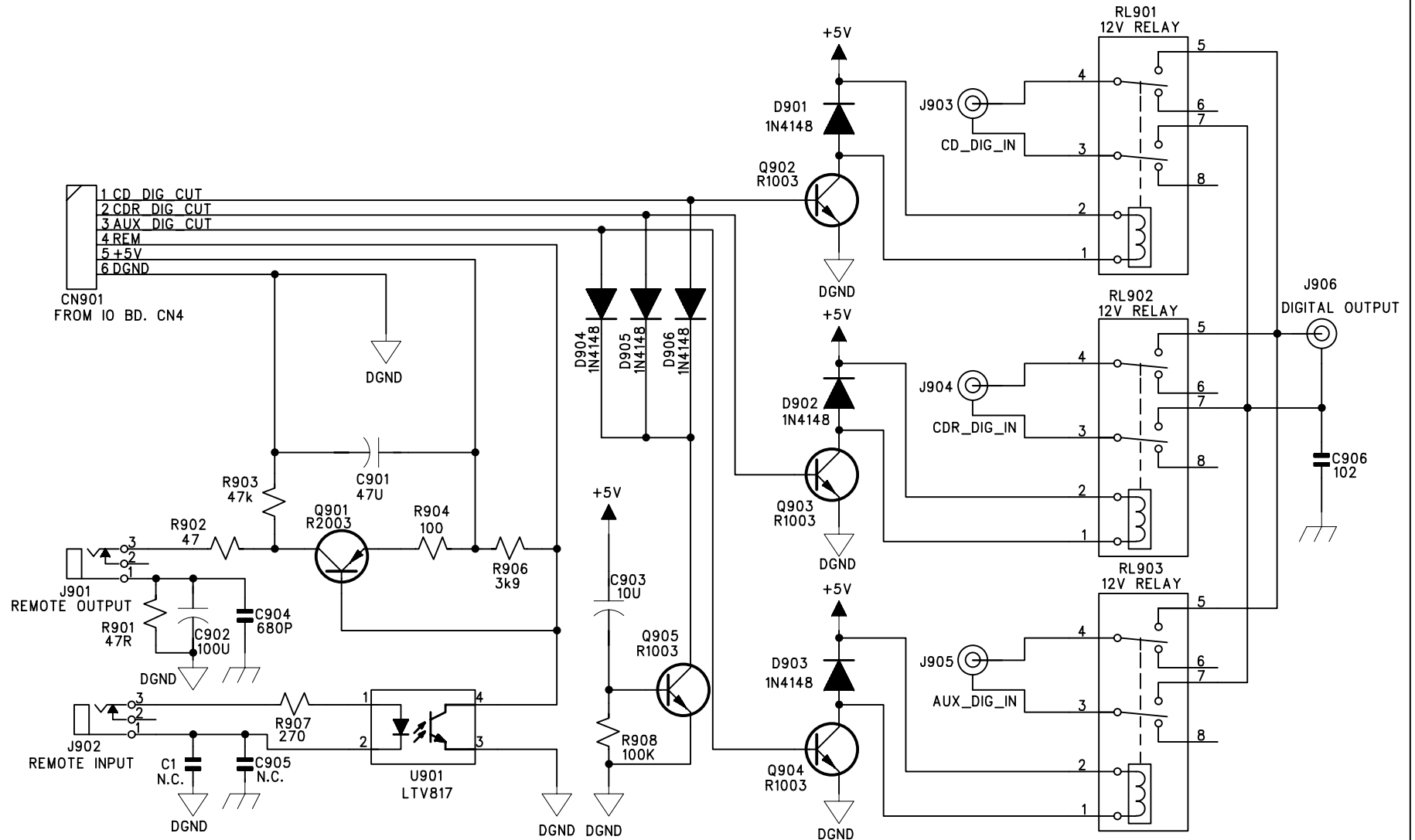
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HKENF 970004-00

FILE NAME: DIGITAL.SCH  
DATE: 2001-07-14

MODEL NO: HK670

PART NO: 4867-000290-001

PART NAME: DIGITAL CONTROL BOARD



PURPOSE: SAMPLE MAKING	PRODUCTION	<input checked="" type="checkbox"/> SHEET 1 OF 1	REV A
PREPARED BY:	CHECKED BY:	APPROVED BY:	

# TONE CONTROL Board

YN

SCHEMATIC DRAWING

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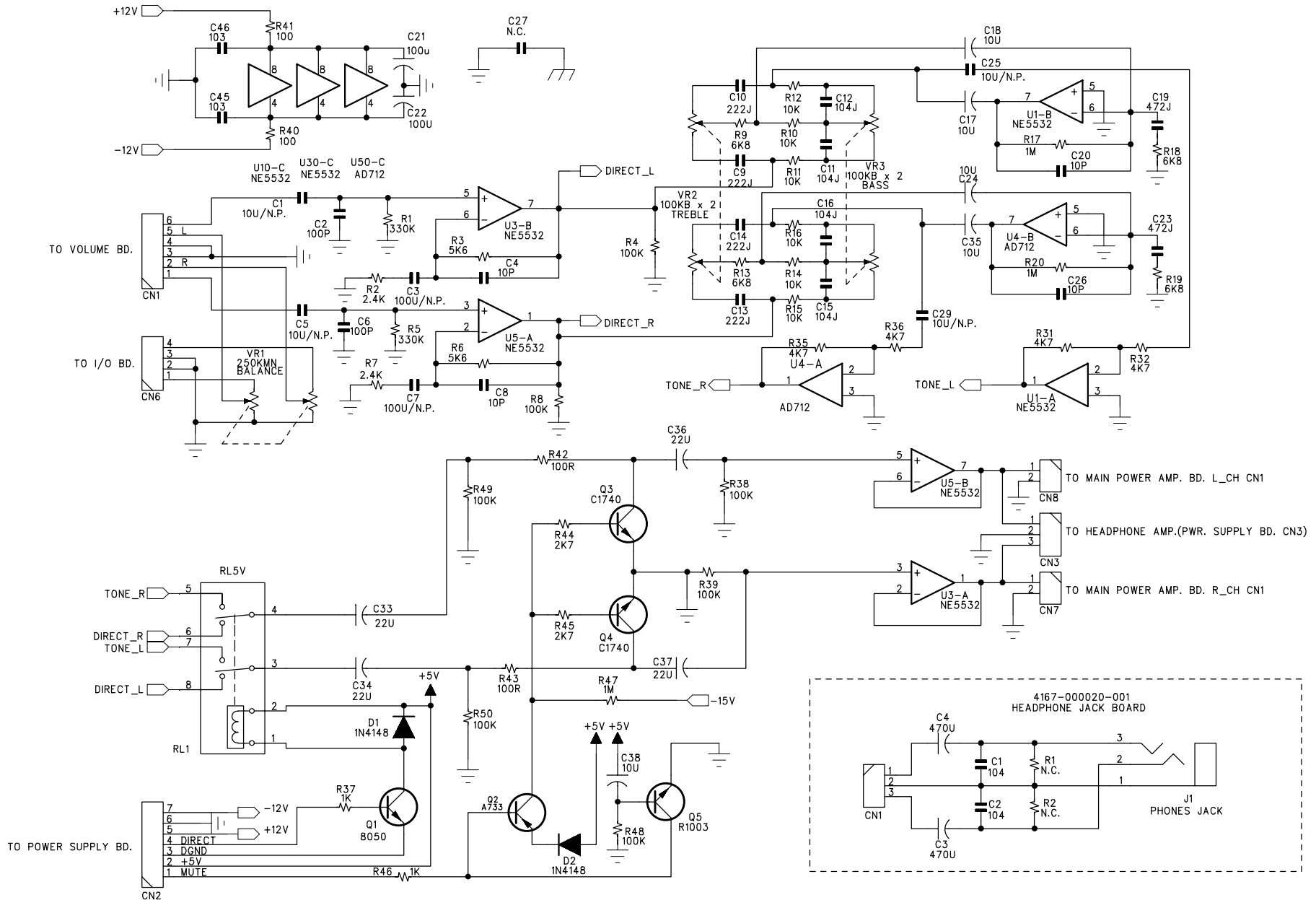
HKENF 970004-00

DATE: 2001-07-14

MODEL NO: HK670

PART NO: 4167-000120-001  
4167-000020-001

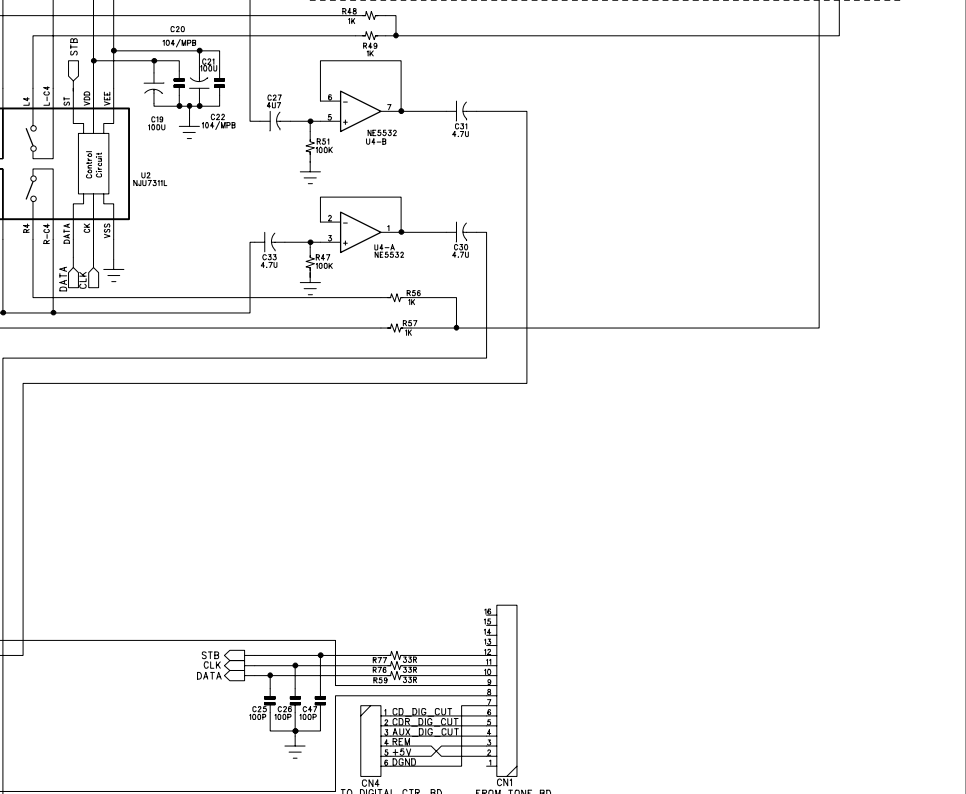
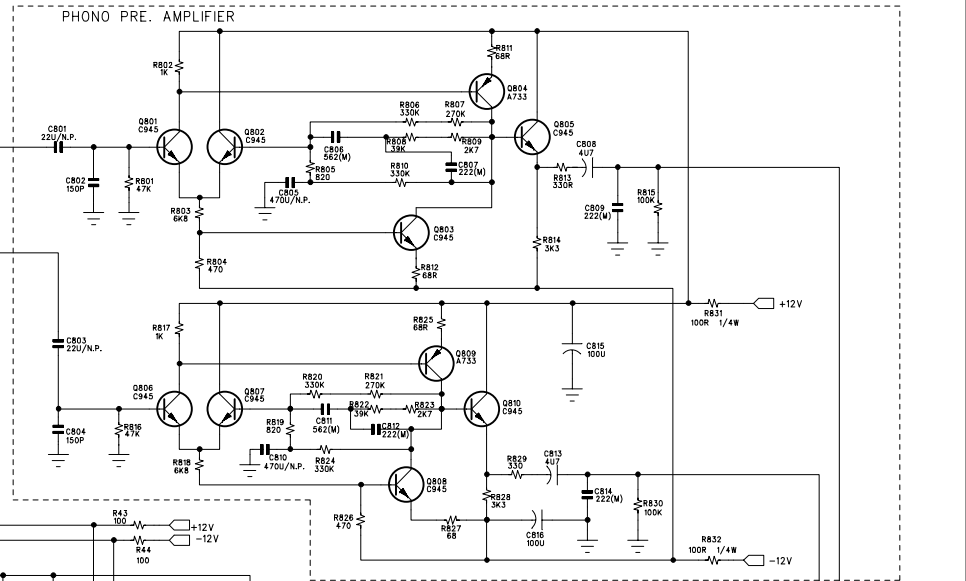
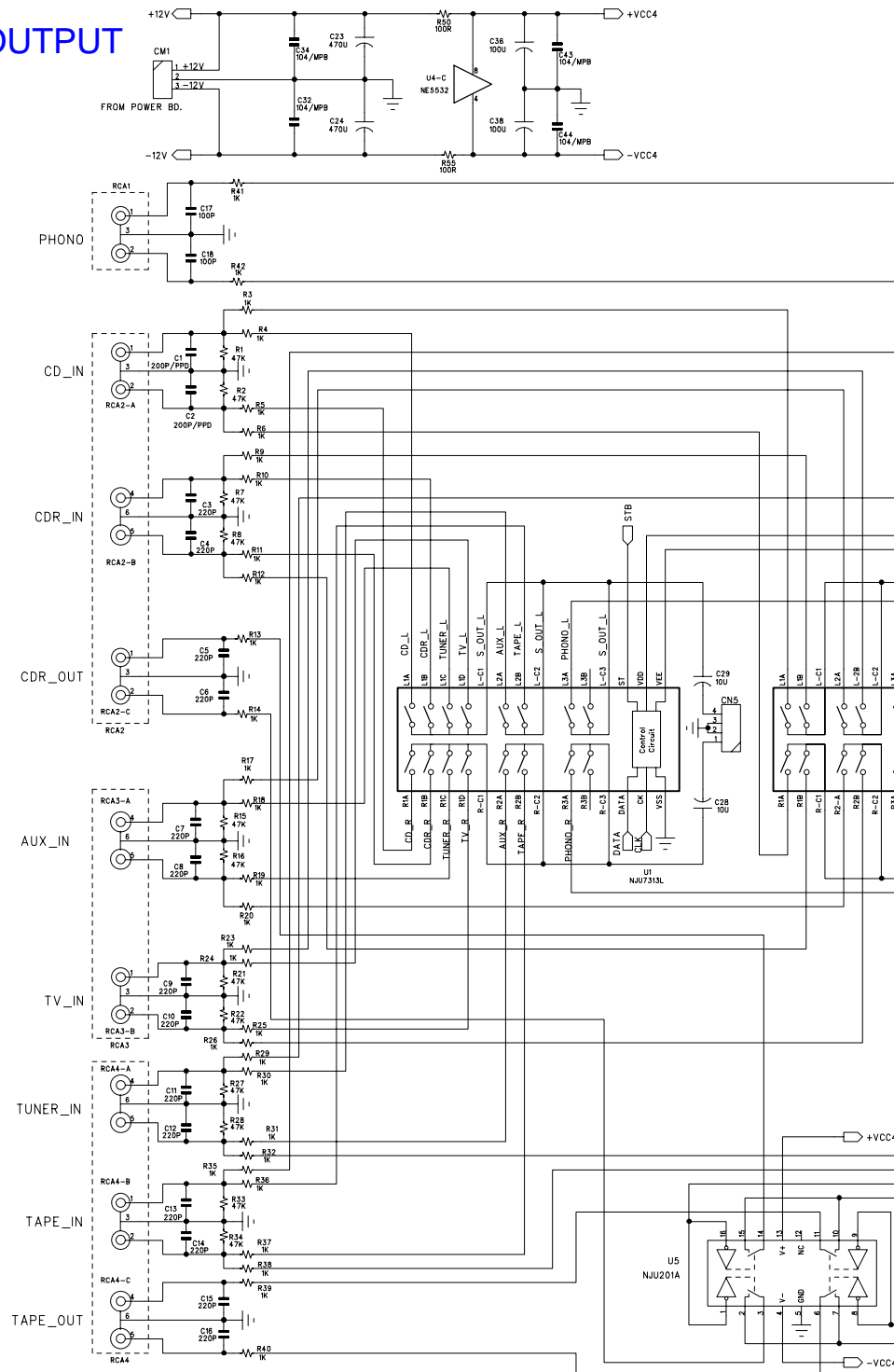
PART NAME: TONE CONTROL BOARD  
HEADPHONE JACK BOARD



TONE CONTROL:  
BASS:50Hz SINEWAVE FOR REFERENCE.  
TREBLE:10KHz SINEWAVE FOR REFERENCE.

PURPOSE: SAMPLE MAKING	PRODUCTION	SHEET 1 OF 1	REV A
PREPARED BY:	CHECKED BY:	APPROVED BY:	

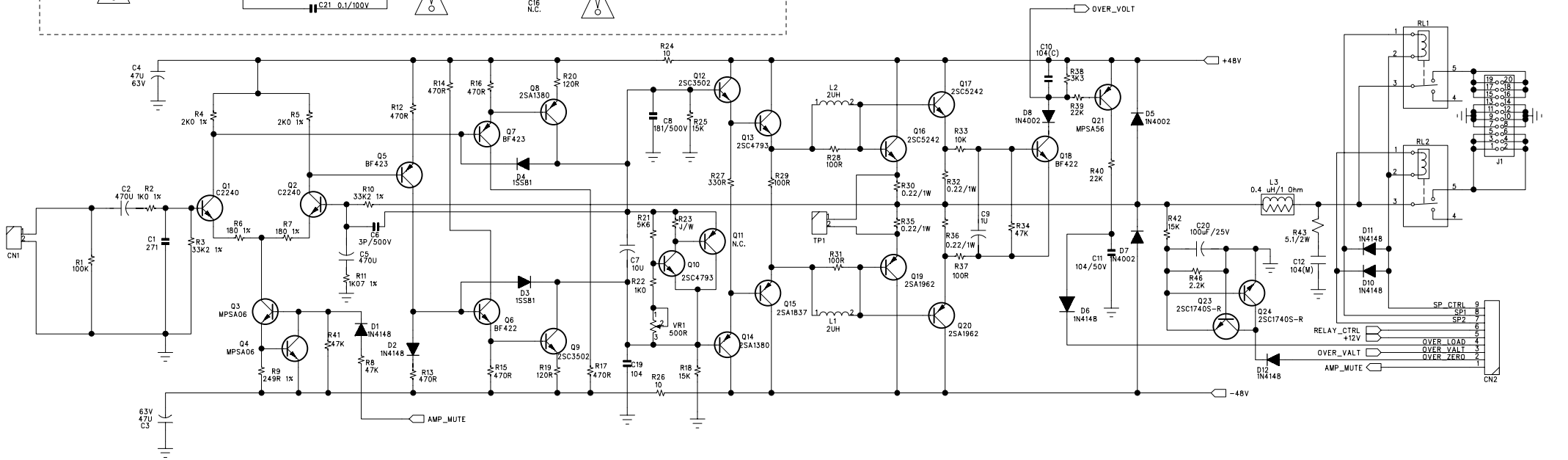
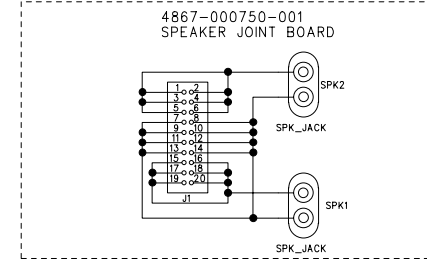
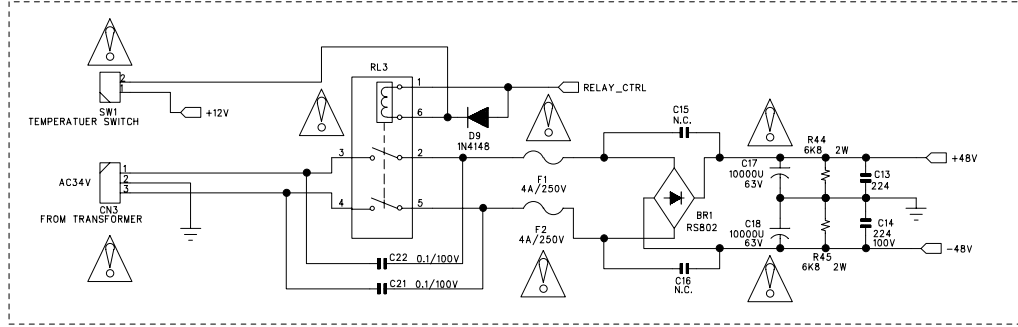
# INPUT / OUTPUT Board





# RIGHT AMP Board

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MODEL NO: HK670	PART NO: 4867-000090-001	PART NAME: RIGHT CHANNEL POWER AMPLIFIER		
	4867-000750-001	SPEAKER JOINT BOARD		



# REMOTE SENSOR Board

YN

SCHMATIC DRAWING

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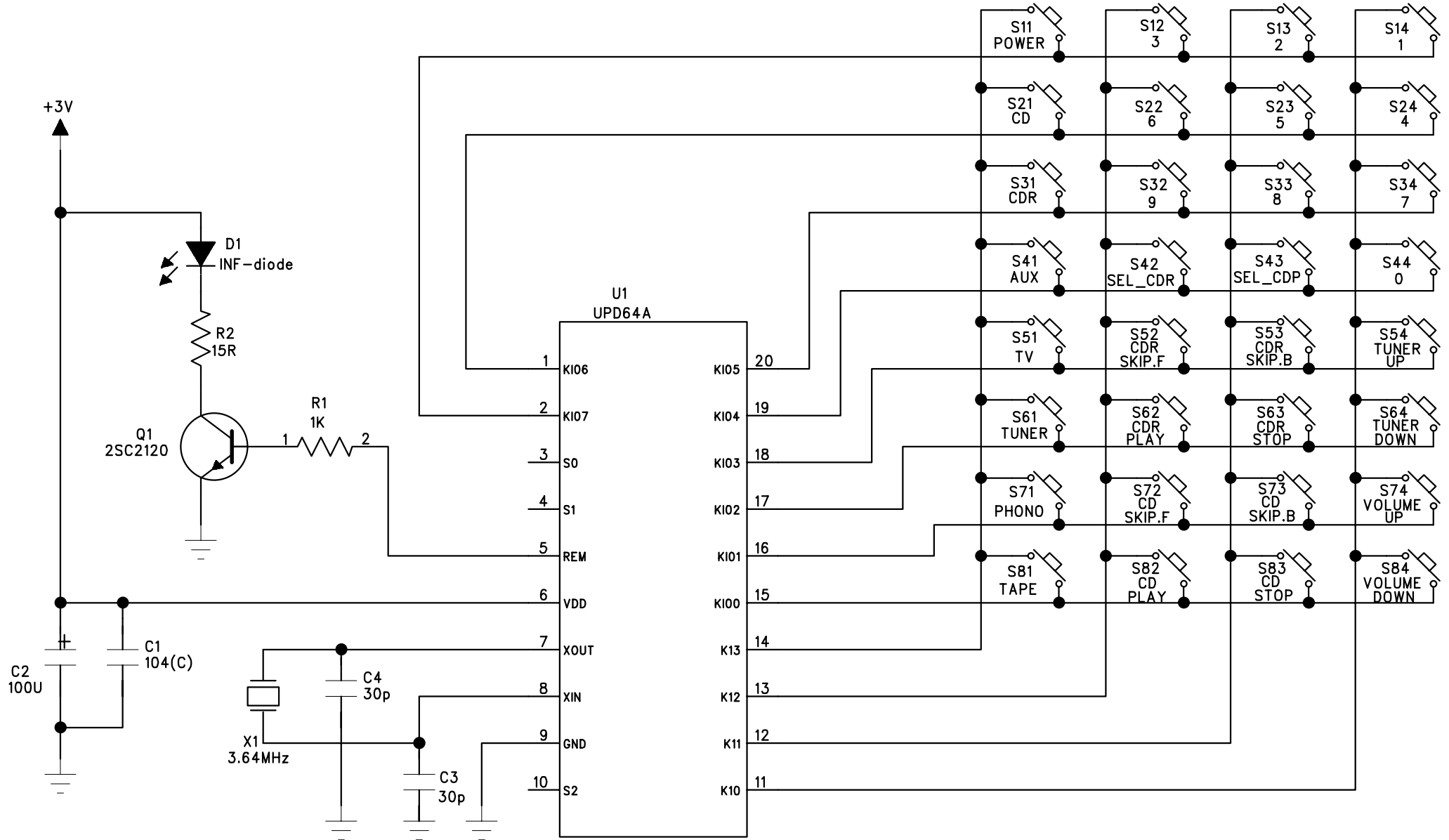
HKENF 970004-00

DATE: 2001-07-15

MODEL NO: HK670

PART NO: 4867-150080-001

PART NAME: REMOTE BOARD



PURPOSE: SAMPLE MAKING

PRODUCTION

SHEET 1 OF 1 REV A

PREPARED BY:

CHECKED BY:

APPROVED BY:

# HK670 ELECTRICAL PART LIST

## POWER SUPPLY BOARD ASSEMBLY

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015000-071</b>	<b>HK670 POWER SUPPLY BOARD ASSY REV A</b>	
<b>Resistor</b>			
R604	1001-000320-000	CARBON FILM RESISTOR 10 OHM 2W +-5%	1
R1, R2	1011-001014-020	METAL FILM RESISTOR 100 OHM 1/4W +-1% AXIAL TAPE	2
R4, R12	1011-002018-020	METAL FILM RESISTOR 1K OHM 1/8W +-1% AXIAL TAPE	2
R601	1011-003016-020	METAL FILM RESISTOR 10K 1/6W +-1% AXIAL TAPE	1
R8, R10, R602, R603	1011-004018-020	METAL FILM RESISTOR 100K OHM 1/8W +-1% AXIAL TAPE	4
R9, R11	1012-203018-020	METAL FILM RESISTOR 22K OHM 1/8W +-1% AXIAL TAPE	2
R13	1014-701018-020	METAL FILM RESISTOR 470 OHM 1/8W +-1% AXIAL TAPE	1
R6, R7	1014-702018-020	METAL FILM RESISTOR 4.7K OHM 1/8W +-1% AXIAL TAPE	2
R3, R5	1016-800014-020	METAL FILM RESISTOR 68 OHM 1/4W +-1% AXIAL TAPE	2
<b>Capacitor</b>			
C607, C609, C618, C621	1100-104044-000	CERAMIC CAP. 0.1uF/50V +-20%	4
C3, C4, C5, C6	1102-101024-000	ELECT. CAP. 100UF/25V +-20%	4
C1, C2	1102-220024-000	ELECT. CAP. 22UF/25V +-20%	2
C614, C615, C619	1102-221024-000	ELECT. CAP. 220UF/25V +-20%	3
C606	1102-222024-001	ELECT. CAP. 2200 UF/25V +-20% NIPPON CHEMI-CON	1
C603	1102-470024-000	ELECT. CAP. 47UF/25V +-20%	1
C608	1102-471014-000	ELECT. CAP. 470uF/16V +-20% 8X12MM	1
C601	1102-471024-000	EL.CAP. 25V470UF CUT +-20%	1
C610, C611	1102-471024-002	ELECT. CAP. 470uF/25V +-20% 10x12.5mm	2
C612, C613, C616, C617	1117-104053-000	METALLIZED POLYE CAP. 0.1UF/63V +-10% BOX P=5MM	4
<b>Transistor, Diode</b>			
Q1, Q602, Q605, Q607, Q608, Q609	1300-100300-100	TRANSISTOR NPN KSR1003 (SAMSUNG)	6
Q606, Q610	1300-805000-100	TRANSISTOR NPN 8050D TO92 SAMSUNG	2
D605, D606	1401-101000-000	BRIDGE RECTIFIER DB101 50V 1A UL	2
D602, D603, D604	1401-141480-010	DIODE 1N4148 TAPE	3
<b>Coil, Connector, Cable</b>			
L601	1503-000000-100	BEAD COIL FB-35608 C.T.C.	1
CN4	2300-003000-001	STRAIGHT CONN WAFER 3PIN 2MMP JST	1
CN605	2300-005100-001	STRAIGHT CONN WAFER 5PINS 2.5MMP JST (JAPAN)	1
CN601	2300-006000-001	STRAIGHT CONN WAFER 6 PIN 2MMP JST	1
CN604	2301-012900-000	12PIN FILM TYPE CABLE STRAIGHT CONN	1
CN2	2301-013900-000	13PIN FILM TYPE CABLE STRAIGHT CONN	1
CN1	2301-016901-000	16PIN FILM TYPE CABLE STRAIGHT CONN	1
CN607	2501-037501-150	3PI 750MM 2CONN CABLE AWG#28 2MMP 1BOARD-IN(BLACK)	1
CN606	2501-070701-150	7PIN 70MM 2CONNCABLE AWG#28 2MMP1BOARD-IN(BLACK)	1
CN603	2501-082201-150	8PIN 220MM 2CONNCABLE AWG#28 2MMP1BOARD-IN(BLACK)	1
CN602	2501-092001-150	9PIN 200MM 2CONNCABLE AWG#28 2MMP1BOARD-IN(BLACK)	1
CN3	2511-031501-151	3P.150MM 2CONNSHIELD CABLEAWG#28 2MMP1BOARD-IN(B.	1
<b>Fuse</b>			
F602, F603	4030-100000-001	SLOW BLOW MICRO FUSE 1A	2
F601	4030-125000-002	FUSE 1A 250V GLASS TABE 5X20MM BSI	1
F601	4031-000003-002	FUSE HOLDER 5X20MM HF-003A MILKY (HOLLYLAND)	1
<b>IC</b>			
U1	4145-600001-600	I.C. NJM4560L 8PINS SIL (NJRC)	1
U601	4178-050334-700	I.C. L7805CV TO220 THOMSON	1
U603, U604	4178-120301-600	I.C. NJM7812FA	2
U602	4179-120301-600	I.C. NJM 7912FA	1
U2	4181-700010-000	I.C. LTV817B LITON	1
<b>PCB, Screw, Heatsink</b>			
	4867-000070-001	HK670 POWER SUPPLY BOARD REV A	1
U601/U604	6531-150222-000	REGULATOR HEATSINK PLATE	1
U602, U603	6542-110203-000	CD421 HEAT SINK	2
U601, U602, U603, U604	7003-006003-111	SCREW M3X6 B.T.B. B/H (BLACK)	1

## PRE-AMP BOARD ASSEMBLY

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015000-571</b>	<b>HK670 I/O BOARD ASSY REV A</b>	
<b>Resistor</b>			
R831, R832	1011-001014-020	METAL FILM RESISTOR 100 OHM 1/4W +-1% AXIAL TAPE	2
R43, R44, R50, R55	1011-001018-020	METAL FILM RESISTOR 100 OHM 1/8W +-1% AXIAL TAPE	4



R3, R4, R5, R6, R9, R10, R11, R12, R13, R14, R17, R18, R19, R20, R23, R24, R25, R26, R29, R30, R31, R32, R35, R36, R37, R38, R39, R40, R41, R42, R48, R49, R56, R57, R802, R817	1011-002018-020	METAL FILM RESISTOR 1K OHM 1/8W +-1% AXIAL TAPE	36
R47, R51, R815, R830	1011-004018-020	METAL FILM RESISTOR 100K OHM 1/8W +-1% AXIAL TAPE	4
R809, R823	1012-702918-020	METAL FILM RESISTOR 2.7K OHM 1/8W +-0.5% TAPE	2
R807, R821	1012-704918-020	METAL FILM RESISTOR 270K OHM 1/8W +-0.5% TAPE	2
R59, R76, R77	1013-300018-020	METAL FILM RESISTOR 33 OHM 1/8W +-1% AXIAL TAPE	3
R813, R829	1013-301016-020	METAL FILM RESISTOR 330 OHM 1/6W +-1% AXIAL TAPE	2
R814, R828	1013-302016-020	METAL FILM RESISTOR 3.3K OHM 1/6W +-1% AXIAL TAPE	2
R806, R810, R820, R824	1013-304918-020	METAL FILM RESISTOR 330K OHM 1/8W +-0.5% TAPE	4
R808, R822	1013-903918-020	METAL FILM RESISTOR 39K OHM 1/8W +-0.5% AXIAL TAPE	2
R804, R826	1014-701018-020	METAL FILM RESISTOR 470 OHM 1/8W +-1% AXIAL TAPE	2
R1, R2, R7, R8, R15, R16, R21, R22, R27, R28, R33, R34, R801, R816	1014-703018-020	METAL FILM RESISTOR 47K 1/8W +-1% AXIAL TAPE	14
R811, R812, R825, R827	1016-800016-020	METAL FILM RESISTOR 68 OHM 1/6W +-1% AXIAL TAPE	4
R803, R818	1016-802018-020	METAL FILM RESISTOR 6.8K 1/8W +-1% AXIAL TAPE	2
R805, R819	1018-201918-020	METAL FILM RESISTOR 820 OHM 1/8W +-0.5% TAPE	2
<b>Capacitor</b>			
C17, C18, C25, C26, C47	1100-101042-000	CERAMIC CAP. 100PF/50V +-5%	5
R802-G, R817-G	1100-104044-000	CERAMIC CAP. 0.1uF/50V +-20%	2
C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C16, C16	1100-221043-000	CERAMIC CAP. 220pF/50V +- 10%	12
C807, C809, C812, C814	1101-202062-000	POLYESTER/MYLAR CAP. 0.002UF/100V +-5%	4
C806, C811	1101-562062-000	POLYESTER/MYLAR CAP. 5600PF/100V +-5%	2
C19, C21, C28, C29, C36, C38, C815, C816	1102-100024-000	ELECT. CAP. 10UF/25V +-20%	8
C23, C24	1102-471024-002	ELECT. CAP. 470uF/25V +-20% 10x12.5mm	1
C27, C30, C31, C33, C808, C813	1102-477044-000	ELECT. CAP. 4.7uF/50V +-20%	6
C801, C803	1105-220044-000	NON-POLARIZED CAP. 22UF/50V +-20%	2
C805, C810	1105-471014-000	NON-POLARIZED CAP. 470UF/16V +-20%	2
C1, C2, C3, C4	1114-201042-001	POLYPROPYLENE CAP. 200P/50V +-5% (RODAN)	4
C20, C22, C32, C34, C43, C44	1117-104053-000	METALLIZED POLYE CAP. 0.1UF/63V +-10% BOX P=5MM	6
C802, C804	1181-151042-000	CERAMIC CAP. 150PF/50V +-5% NPO+ 60PPM	2
<b>Transistor</b>			
Q801, Q802, Q803, Q805, Q806, Q807, Q808, Q810	1300-945000-100	TRANSISTOR NPN KSC945-Y (SAMSUNG)	8
Q804, Q809	1301-273300-101	TRANSISTOR PNP 2SA733Y	2
<b>Connector, Jack</b>			
CM1	2300-003000-001	STRAIGHT CONN WAFER 3PIN 2MMP JST	1
CN5	2300-004000-002	STRAIGHT CONN WAFER 4PINS 2MMP JST	1
CN4	2300-006000-001	STRAIGHT CONN WAFER 6 PIN 2MMP JST	1
CN1	2301-016901-000	16PIN FILM TYPE CABLE STRAIGHT CONN	1
RCA1	2330-003990-001	RCA JACK 2P 202 R/W (GOLD)	1
RCA3	2330-006990-001	RCA JACK 4P 402 R/R/W/W WITH SHIELD PLATE (GOLD)	1
RCA2, RCA4	2330-009990-001	RCA JACK 6P 602 R/R/R/W/W/W WITH SHIELD PLATE GOLD	2
<b>IC</b>			
U5	4120-100101-600	I.C. NJU201A 28PINS SOP (JRC)	1
U4	4155-320052-900	I.C.5532P DIP (TI)	1
U2	4173-110051-600	IC NJU7311L 28P DIP JRC	1
U1	4173-130051-600	IC NJU7313L 28P DIP JRC	1
<b>PCB</b>			
	4867-000570-001	HK670 I/O BOARD REV A	1

### LEFT AMPLIFIER BOARD ASSEMBLY

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
	<b>9467-015001-091</b>	<b>HK670 LEFT CHANNEL POWER AMPLIFIER ASSY REV A</b>	
<b>Resistor</b>			
R24, R26	1011-000016-020	METAL FILM RESISTOR 10 OHM 1/6W +-1% AXIAL TAPE	2
R28, R29, R31, R37	1011-001018-020	METAL FILM RESISTOR 100 OHM 1/8W +-1% AXIAL TAPE	4
R2, R22	1011-002018-020	METAL FILM RESISTOR 1K OHM 1/8W +-1% AXIAL TAPE	2
R33	1011-003016-020	METAL FILM RESISTOR 10K 1/6W +-1% AXIAL TAPE	1
R1	1011-004018-020	METAL FILM RESISTOR 100K OHM 1/8W +-1% AXIAL TAPE	1
R11	1011-072016-020	METAL FILM RESISTOR 1.07K OHM 1/6W +-1% AXIAL TAPE	1
R19, R20	1011-201016-020	METAL FILM RESISTOR 120 OHM 1/6W +-1% AXIAL TAPE	2
R18, R25, R34, R42	1011-503016-020	METAL FILM RESISTOR 15K OHM 1/6W +-1% AXIAL TAPE	4
R6, R7	1011-801016-020	METAL FILM RESISTOR 180 OHM 1/6W +-1% AXIAL TAPE	2

R4, R5, R46	1012-002016-020	METAL FILM RESISTOR 2K OHM 1/6W +-1% TAPE	3
R9	1012-491016-020	METAL FILM RESISTOR 249 OHM 1/6W +-1% TAPE	1
R27	1013-301016-020	METAL FILM RESISTOR 330 OHM 1/6W +-1% AXIAL TAPE	1
R3, R10	1013-323016-020	METAL FILM RESISTOR 33.2K OHM 1/6W +-1% TAPE	2
R12, R13, R14, R15, R16, R17	1014-701018-020	METAL FILM RESISTOR 470 OHM 1/8W +-1% AXIAL TAPE	6
R8, R41	1014-703018-020	METAL FILM RESISTOR 47K 1/8W +-1% AXIAL TAPE	2
R21	1015-602016-020	METAL FILM RESISTOR 5.6K OHM 1/6W +-1% AXIAL TAPE	1
VR1	1065-001600-171	SEMI-FIXED RESISTOR 500 OHM +-30% PA0630-VA1-B501	1
R30, R32, R35, R36	1092-208310-020	METAL OXIDE RESISTOR 0.22 OHM 1W +-5% AXIAL TAPE	4
R43	1095-107310-020	METAL OXIDE RESISTOR 5.1 OHM 1W +-5% AXIAL TAPE	1
R44, R45	1096-802320-020	METAL OXIDE RESISTOR 6.8K OHM 2W +-5% AXIAL TAPE	2
<b>Capacitor</b>			
C26, C27	1100-104064-000	CERAMIC CAP. 0.1UF/100V +/-20%	2
C12	1101-104063-000	POLYESTER/MYLAR CAP. 0.1UF/100V +-10%	1
C7	1102-100024-000	ELECT. CAP. 10UF/25V +-20%	1
C20	1102-101024-000	ELECT. CAP. 100UF/25V +-20%	1
C17, C18	1102-123054-001	ELECT. CAP. 12000uF/63V +-20% (NICHICON)	2
C9	1102-337044-000	ELECT. CAP. 3.3uF/50V +-20%	1
C3, C4	1102-470054-000	ELECT. CAP. 47UF/63V +-20%	2
C2, C5	1102-471024-002	ELECT. CAP. 470uF/25V +-20% 10x12.5mm	2
C8	1114-181062-000	POLYPROPYLENE CAP. 180P/100V +-5%	1
C13, C14	1114-224093-000	METALLIZED POLYPROPYLENE CAP. 0.22UF/250V +-10%	2
C1	1114-271062-000	POLYPROPYLENE CAP. 270PF 100V +-5%	1
C6	1181-307042-000	CERAMIC CAP. 3PF/50V +-5% NPO	1
<b>Transistor, Diode</b>			
Q3, Q4	1300-060000-100	TRANSISTOR NPN MPSA06 TO92	2
Q23, Q24	1300-174000-100	TRANSISTOR NPN 2SC1740 TO-92	2
Q1, Q2	1300-224000-100	TRANSISTOR NPN 2SC2240-GR TO-92 (TOSHIBA)	2
Q9, Q12	1300-350200-800	TRANSIISTOR NPN 2SC3502 TO126 (SANYO)	2
Q6, Q18	1300-422000-100	TRANSISTOR NPN BF422 (PHILIPS)	2
Q10, Q13	1300-479300-200	TRANSISTOR NPN 2SC4793 (TOSHIBA)	2
Q16, Q17	1300-524209-900	TRANSISTOR NPN 2SC5242-O (TOSHIBA)	2
Q8, Q14	1301-138000-800	TRANSIISTOR PNP 2SA1380 TO126 (SANYO)	2
Q15	1301-183700-200	TRANSISTOR PNP 2CA1837 (TOSHIBA)	1
Q19, Q20	1301-196209-900	TRANSISTOR PNP 2SA1962-O (TOSHIBA)	2
Q5, Q7	1301-423000-100	TRANSISTOR PNP BF423 (PHILIPS)	2
D5, D7, D8	1401-140010-000	DIODE 1N4001	3
D1, D2, D6, D9, D10, D11	1401-141480-010	DIODE 1N4148 TAPE	6
BR1	1401-802000-000	DIODE BRIDGE RS802	1
D3, D4	1404-181001-200	HIGH VOLTAGE SWITCHING DIODE 1SS81(HITACH) TAPE	2
<b>Coil, Inductor</b>			
L3	1502-047400-900	AUDIO FILTTER L=4UH R=1 +-20% LR0515-R40M	1
L1, L2	1503-000000-100	BEAD COIL FB-35608 C.T.C.	2
<b>Connector</b>			
CN1	2300-002000-001	STRAIGHT CONN WAFER 2PIN 2MMP JST	1
TP1	2300-002100-000	STRAIGHT CONN. WAFER 2 PINS 2.5mmP	1
CN3	2300-003400-001	STRAIGHT CONN WAFER 3PIN 3.96MMP JST	1
CN2	2300-008000-002	STRAIGHT CONN WAFER 8PINS 2MMP JST	1
J1	2333-004919-001	SPEAKER JACK PSZ-405 4PIN RED/BLK (GOLD)	1
J1	2370-020110-000	RIGHT ANGLE HEADER 20PIN 2.5MMP	1
<b>Thermal Switch, Fuse, Relay</b>			
SW1	4014-170275-000	THERMAL PROTECT SWITCH 17AM027A5-32 (TI)	1
F1, F2	4030-618004-001	FUSE T-4A/250V 618004 5X20MM	2
F1, F2	4031-050100-001	FUSE HOLDER 5X20MM PCB MOUNT WITH PLASTIC BASE	2
RL1	4050-110122-000	RELAY 8A/250VAC 2POLE ME-11-012-2H4 COIL:12VDC	1
RL2, RL3	4050-210000-000	RELAY G2R-1A-E-S DC12V 16A (OMRON)	2
<b>PCB, Screw, Heatsink, Misc</b>			
Q16, Q17, Q19, Q20	4080-000006-001	MICA TRANS. WASHER 25X29X0.15(MM) (AP10692/2)	4
	4080-058016-000	MICA WASHER 58X16X0.15t	1
	4867-000090-102	LEFT CHANNEL AMPLIFIER BOARD REV B	1
	4867-000750-001	HK670 SPEAKER JOINT BOARD REV A	1
	6567-150008-000	HK670 HEAT SINK	1
	7002-010010-111	SCREW M2X10 M/C TYPE B/H BLACK	5
	7003-008002-111	SCREW M3X8 P.T.P. B/H (BLACK)	2
	7003-014010-111	SCREW M3X14 M/C TYPE B/H BLK	4
	7102-304636-040	NYLON WASHER 2.3X4.6X3.6	5
Q16, Q17, Q19, Q20	7103-206504-081	EX-TOOTHED LOCK WASHER M3 (BLK)	4

**RIGHT AMPLIFIER BOARD ASSEMBLY**

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015000-091</b>	<b>HK670 RIGHT CHANNEL POWER AMPLIFIER ASSY REV A</b>	
<b>Resistor</b>			
R24, R26	1011-000016-020	METAL FILM RESISTOR 10 OHM 1/6W +-1% AXIAL TAPE	2
R28, R29, R31, R37	1011-001018-020	METAL FILM RESISTOR 100 OHM 1/8W +-1% AXIAL TAPE	4
R2, R22	1011-002018-020	METAL FILM RESISTOR 1K OHM 1/8W +-1% AXIAL TAPE	2
R33	1011-003016-020	METAL FILM RESISTOR 10K 1/6W +-1% AXIAL TAPE	1
R1	1011-004018-020	METAL FILM RESISTOR 100K OHM 1/8W +-1% AXIAL TAPE	1
R11	1011-072016-020	METAL FILM RESISTOR 1.07K OHM 1/6W +-1% AXIAL TAPE	1
R19, R20	1011-201016-020	METAL FILM RESISTOR 120 OHM 1/6W +-1% AXIAL TAPE	2
R18, R25, R34, R42	1011-503016-020	METAL FILM RESISTOR 15K OHM 1/6W +-1% AXIAL TAPE	4
R6, R7	1011-801016-020	METAL FILM RESISTOR 180 OHM 1/6W +-1% AXIAL TAPE	2
R4, R5	1012-002016-020	METAL FILM RESISTOR 2K OHM 1/6W +-1% TAPE	2
R46	1012-202018-020	METAL FILM RESISTOR 2.2K OHM 1/8W +-1% AXIAL TAPE	1
R39, R40	1012-203018-020	METAL FILM RESISTOR 22K OHM 1/8W +-1% AXIAL TAPE	2
R9	1012-491016-020	METAL FILM RESISTOR 249 OHM 1/6W +-1% TAPE	1
R27	1013-301016-020	METAL FILM RESISTOR 330 OHM 1/6W +-1% AXIAL TAPE	1
R38	1013-302016-020	METAL FILM RESISTOR 3.3K OHM 1/6W +-1% AXIAL TAPE	1
R3, R10	1013-323016-020	METAL FILM RESISTOR 33.2K OHM 1/6W +-1% TAPE	2
R12, R13, R14, R15, R16, R17	1014-701018-020	METAL FILM RESISTOR 470 OHM 1/8W +-1% AXIAL TAPE	6
R8, R41	1014-703018-020	METAL FILM RESISTOR 47K 1/8W +-1% AXIAL TAPE	2
R21	1015-602016-020	METAL FILM RESISTOR 5.6K OHM 1/6W +-1% AXIAL TAPE	1
VR1	1065-001600-171	SEMI-FIXED RESISTOR 500 OHM +-30% PA0630-VA1-B501	1
R30, R32, R35, R36	1092-208310-020	METAL OXIDE RESISTOR 0.22 OHM 1W +-5% AXIAL TAPE	4
R43	1095-107310-020	METAL OXIDE RESISTOR 5.1 OHM 1W +-5% AXIAL TAPE	1
R44, R45	1096-802320-020	METAL OXIDE RESISTOR 6.8K OHM 2W +-5% AXIAL TAPE	2
<b>Capacitor</b>			
C10	1100-104044-000	CERAMIC CAP. 0.1uF/50V +-20%	1
C21, C22	1100-104064-000	CERAMIC CAP. 0.1UF/100V +/-20%	2
C12	1101-104063-000	POLYESTER/MYLAR CAP. 0.1UF/100V +-10%	1
C7	1102-100024-000	ELECT. CAP. 10UF/25V +-20%	1
C20	1102-101024-000	ELECT. CAP. 100UF/25V +-20%	1
C17, C18	1102-123054-001	ELECT. CAP. 12000uF/63V +-20% (NICHICON)	2
C9	1102-337044-000	ELECT. CAP. 3.3uF/50V +-20%	1
C3, C4	1102-470054-000	ELECT CAP. 47UF/63V +-20%	2
C2, C5	1102-471024-002	ELECT. CAP. 470uF/25V +-20% 10x12.5mm	2
C8	1114-181062-000	POLYPROPYLENE CAP. 180P/100V +-5%	1
C13, C14	1114-224093-000	METALLIZED POLYPROPYLENE CAP. 0.22UF/250V +-10%	2
C1	1114-271062-000	POLYPROPYLENE CAP. 270PF 100V +-5%	1
C6	1181-307042-000	CERAMIC CAP. 3PF/50V +-5% NPO	1
<b>Transistor, Diode</b>			
Q3, Q4	1300-060000-100	TRANSISTOR NPN MPSA06 TO92	2
Q23, Q24	1300-174000-100	TRANSISTOR NPN 2SC1740 TO-92	2
Q1, Q2	1300-224000-100	TRANSISTOR NPN 2SC2240-GR TO-92 (TOSHIBA)	2
Q9, Q12	1300-350200-800	TRANSIISTOR NPN 2SC3502 TO126 (SANYO)	2
Q6, Q18	1300-422000-100	TRANSISTOR NPN BF422 (PHILIPS)	2
Q10, Q13	1300-479300-200	TRANSISTOR NPN 2SC4793 (TOSHIBA)	2
Q16, Q17	1300-524209-900	TRANSISTOR NPN 2SC5242-O (TOSHIBA)	2
Q8, Q14	1301-138000-800	TRANSIISTOR PNP 2SA1380 TO126 (SANYO)	2
Q15	1301-183700-200	TRANSISTOR PNP 2CA1837 (TOSHIBA)	1
Q19, Q20	1301-196209-900	TRANSISTOR PNP 2SA1962-O (TOSHIBA)	2
Q5, Q7	1301-423000-100	TRANSISTOR PNP BF423 (PHILIPS)	2
Q21	1301-560000-100	TRANSISTOR PNP MPSA56 TO92	1
D5, D7, D8	1401-140010-000	DIODE 1N4001	3
D1, D2, D6, D9, D10, D11, D12	1401-141480-010	DIODE 1N4148 TAPE	7
BR1	1401-802000-000	DIODE BRIDGE RS802	1
D3, D4	1404-181001-200	HIGH VOLTAGE SWITCHING DIODE 1SS81(HITACH) TAPE	2
<b>Coil, Inductor</b>			
L3	1502-047400-900	AUDIO FILTTER L=4UH R=1 +-20% LR0515-R40M	1
L1, L2	1503-000000-100	BEAD COIL FB-35608 C.T.C.	2
<b>Connector</b>			
CN1	2300-002000-001	STRAIGHT CONN WAFER 2PIN 2MMP JST	1
TP1	2300-002100-000	STRAIGHT CONN. WAFER 2 PINS 2.5mmP	1
CN3	2300-003400-001	STRAIGHT CONN WAFER 3PIN 3.96MMP JST	1
CN2	2300-009000-001	STRAIGHT CONN WAFER 9PINS 2MMP JST	1
J1	2333-004919-001	SPEAKER JACK PSZ-405 4PIN RED/BLK (GOLD)	1
J1	2370-020110-000	RIGHT ANGLE HEADER 20PIN 2.5MMP	1

**Thermal Switch, Fuse, Relay**

SW1	4014-170275-000	THERMAL PROTECT SWITCH 17AM027A5-32 (TI)	1
F1, F2	4030-618004-001	FUSE T-4A/250V 618004 5X20MM	2
F1, F2	4031-050100-001	FUSE HOLDER 5X20MM PCB MOUNT WITH PLASTIC BASE	2
RL1	4050-110122-000	RELAY 8A/250VAC 2POLE ME-11-012-2H4 COIL:12VDC	1
RL2, RL3	4050-210000-000	RELAY G2R-1A-E-S DC12V 16A (OMRON)	2

**PCB, Screw, Heatsink, Misc**

Q16, Q17, Q19, Q20	4080-000006-001	MICA TRANS. WASHER 25X29X0.15(MM) (AP10692/2)	4
	4080-058016-000	MICA WASHER 58X16X0.15t	1
	4867-000090-002	RIGHT CHANNEL AMPLIFIER BOARD REV B	1
	4867-000750-001	HK670 SPEAKER JOINT BOARD REV A	1
	6567-150008-000	HK670 HEAT SINK	1
	7002-010010-111	SCREW M2X10 M/C TYPE B/H BLACK	5
	7003-008002-111	SCREW M3X8 P.T.P. B/H (BLACK)	2
	7003-014010-111	SCREW M3X14 M/C TYPE B/H BLK	4
	7102-304636-040	NYLON WASHER 2.3X4.6X3.6	5
Q16, Q17, Q19, Q20	7103-206504-081	EX-TOOTHED LOCK WASHER M3 (BLK)	4

**STONE CONTROL BOARD ASSEMBLY**

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
	<b>9467-015000-561</b>	<b>HK670 TONE CONTROL BOARD ASSY REV A</b>	
<b>Resistor</b>			
R37, R46	1001-002313-521	THICK FILM RESISTOR 1K OHM +-5% 1/16W SMD 0603	2
R48	1001-004313-521	THICK FILM RESISTOR 100K OHM +-5% 1/16W SMD 0603	1
R47	1001-005313-521	THICK FILM RESISTOR 1M OHM +-5% 1/16W SMD 0603	1
R44, R45	1002-702313-521	THICK FILM RESISTOR 2.7K OHM +-5% 1/16W SMD 0603	2
R42, R43	1011-001013-520	THICK FILM RESISTOR 100 OHM 1/16W +-1% SMD0603	2
R40, R41	1011-001018-020	METAL FILM RESISTOR 100 OHM 1/8W +-1% AXIAL TAPE	2
R10, R11, R12, R14, R15, R16	1011-003013-520	THICK FILM RESISTOR 10K OHM 1/16W +-1% SMD0603	6
R4, R8, R38, R39, R49, R50	1011-004013-520	THICK FILM RESISTOR 100K OHM 1/16W +-1% SMD0603	6
R17, R20	1011-005013-520	THICK FILM RESISTOR 1M OHM 1/16W +-1% SMD0603	2
R2, R7	1012-402013-520	THICK FILM RESISTOR 2.4K OHM 1/16W +-1% SMD0603	2
R1, R5	1013-304013-520	THICK FILM RESISTOR 330K OHM 1/16W +-1% SMD0603	2
R31, R32, R35, R36	1014-702013-520	THICK FILM RESISTOR 4.7K OHM 1/16W +-1% SMD0603	4
R3, R6	1015-602013-520	THICK FILM RESISTOR 5.6K OHM 1/16W +-1% SMD0603	2
R9, R13, R18, R19	1016-802013-520	THICK FILM RESISTOR 6.8K OHM 1/16W +-1% SMD0603	4
VR2, VR3	1061-004411-130	VAR RESISTOR 100K+-10%0.1w(ROTARY DUAL B-TYPE)	2
VR1	1062-504511-160	VAR.RESISTOR 250K +-20% 0.1W (ROTARY DUAL MN-TYPE)	1
<b>Capacitor</b>			
C28, C30, C31, C32, C39, C40, C41, C42	1100-104025-400	CERAMIC CAP 0.1uF/25V +80%-20% SMD0603	8
C11, C12, C15, C16	1101-104062-000	POLYESTER/MYLAR CAP. 0.1UF/100V +-5%	4
C9, C10, C13, C14	1101-222062-000	POLYESTER/MYLAR CAP. 2200PF/100V +-5%	4
C19, C23	1101-472062-000	POLYESTER/MYLAR CAP. 4700PF/100V +-5%	2
C17, C18, C24, C35, C38	1102-100024-000	ELECT. CAP. 10UF/25V +-20%	5
C21, C22	1102-101024-000	ELECT. CAP. 100UF/25V +-20%	2
C33, C34, C36, C37	1102-220024-000	ELECT. CAP. 22UF/25V +-20%	4
C1, C5, C25, C29	1105-100024-000	NON-POLARIZED CAP. 10UF/25V +-20%	4
C3, C7	1105-101024-000	NON-POLARIZED CAP 100UF/25V +-20% 5MMP	2
C45, C46	1117-104053-000	METALLIZED POLYE CAP. 0.1UF/63V +-10% BOX P=5MM	2
C4, C8, C20, C26	1181-100042-400	CERAMIC CAP. 10PF/50V +-5% NPO SMD 0603	4
C2, C6	1181-101042-400	CERAMIC CAP. 100PF/50V +-5% NPO SMD 0603	2
<b>Transistor, Diode</b>			
Q5	1300-100300-100	TRANSISTOR NPN KSR1003 (SAMSUNG)	1
Q3, Q4	1300-174000-100	TRANSISTOR NPN 2SC1740 TO-92	2
Q1	1300-805000-100	TRANSISTOR NPN 8050D TO92 SAMSUNG	1
Q2	1301-273300-101	TRANSISTOR PNP 2SA733Y	1
D1, D2	1401-141480-010	DIODE 1N4148 TAPE	2
<b>Connector, Relay</b>			
CN7, CN8	2300-002000-001	STRAIGHT CONN WAFER 2PIN 2MMP JST	2
CN3	2300-003000-001	STRAIGHT CONN WAFER 3PIN 2MMP JST	1
CN6	2300-004000-002	STRAIGHT CONN WAFER 4PINS 2MMP JST	1
CN1	2300-006000-001	STRAIGHT CONN WAFER 6 PIN 2MMP JST	1
CN4	2300-007000-001	STRAIGHT CONN WAFER 7 PINS 2MMP JST	1
RL1	4050-000005-002	RELAY ME-2-5 DC 5V GS-SH-205T 120E	1
<b>IC</b>			
U1, U3, U4, U5	4155-320101-600	I.C.NJM5532M SOP8 (JRC)	4
<b>PCB</b>			
	4867-000560-001	HK670 TONE CONTROL BOARD REV A	1

**FRONT PANEL BOARD ASSEMBLY**

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015000-041</b>	<b>HK670 KEY CONTROL BOARD ASSY REV A</b>	
<b>Resistor</b>			
R336	1001-000316-020	CARBON FILM RESISTOR 10 OHM 1/6W +-5% AXIAL TAPE	1
R1, R312, R313, R338, R339, R341, R351, R355	1001-001316-020	CARBON FILM RESISTOR 100 OHM 1/6W +-5% AXIAL TAPE	8
R3, R302, R303, R310, R311, R315, R318, R319, R322, R324, R344	1001-002316-000	CARBON FILM RESISTOR 1K OHM 1/6 W +-5%	11
R4, R8, R316	1001-003316-020	CARBON FILM RESISTOR 10K OHM 1/6W +-5% TP52	3
R6, R317	1001-004316-020	CARBON FILM RESISTOR 100K OHM 1/6W +-5% TP52	2
R327	1001-201316-000	CARBON FILM RESISTOR 120 OHM 1/6 W +-5%	1
R343, R345, R346, R347, R349, R352, R353, R354	1001-501316-000	CARBON FILM RESISTOR 150 OHM 1/6 W +-5%	8
R9	1002-202316-000	CARBON FILM RESISTOR 2.2K OHM 1/6 W +-5%	1
R5	1002-203316-000	CARBON FILM RESISTOR 22K OHM 1/6 W +-5%	1
R326	1003-001316-000	CARBON FILM RESISTOR 300 OHM 1/6W +-5%	1
R348	1003-301316-000	CARBON FILM RESISTOR 330 OHM 1/6W +-5%	1
R2	1004-702316-000	CARBON FILM RESISTOR 4.7K OHM 1/6 W +-5%	1
R301	1007-501316-000	CARBON FILM RESISTOR 750 OHM 1/6W +-5%	1
R314	1008-202316-000	CARBON FILM RESISTOR 8.2K OHM 1/6 W +-5%	1
R335	1009-101316-000	CARBON FILM RESISTOR 910 OHM 1/6W	1
RN601	1044-702318-401	RESISTOR NETWORK 4K7X6 1/8W TYPE A 7PIN	1
RN602, RN603	1044-702318-402	RESISTOR NETWORK 4K7X8 1/8W TYPE A 9PIN	2
<b>Capacitor</b>			
C2, C3, C309	1100-103043-000	CERAMIC CAP. 0.01uF/50V +-10%	3
C4, C305, C308	1100-104044-000	CERAMIC CAP. 0.1uF/50V +-20%	3
C302, C307	1102-100024-000	ELECT. CAP. 10UF/25V +-20%	2
C301, C306, C340	1102-101024-000	ELECT. CAP. 100UF/25V +-20%	3
C303, C304	1181-390042-000	CERAMIC CAP. 39PF/50V +-5% NPO	2
<b>Transistor, Diode</b>			
Q2	1300-100300-100	TRANSISTOR NPN KSR1003 (SAMSUNG)	1
Q1, Q305, Q306, Q307	1300-332700-400	TRANSISTOR 2SC3327-A.B	4
Q302	1300-945000-100	TRANSISTOR NPN KSC945-Y (SAMSUNG)	1
Q303, Q308	1301-200300-100	TRANSISTOR PNP KSR2003 (SAMSUNG)	2
Q301	1301-273300-101	TRANSISTOR PNP 2SA733Y	1
D1, D2, D4, D5, D6, D7	1401-141480-000	DIODE 1N4148	6
Z1	1402-430001-200	ZENER DIODE 4V3 1/2W	1
Z301	1402-471201-200	ZENER DIODE 4.7V 1/2W	1
<b>Coil</b>			
L301, L302, L303	1503-000000-100	BEAD COIL FB-35608 C.T.C.	3
<b>Reasonator</b>			
X301	1602-400002-000	REASONATOR 4MHZ	1
<b>Connector, Cable, Switch</b>			
CN1	2300-002010-001	RIGHT ANGLE CONN WAFER 2PIN 2MMP JST	1
CN303	2300-005010-002	RIGHT ANGLE CONN WAFER 5PIN 2MMP JST	1
CN302	2300-012911-000	12PIN FLAT FLEXIBLE CABLE CONNECTOR 1MMP RT	1
CN301	2300-013911-000	13PIN FLAT FLEXIBLE CABLE CONNECTOR 1MMP RT	1
SW301, SW302, SW303, SW304, SW305	2400-020200-000	TACT SW 2P2T KPT-1105A (5MM)	5
CN304	2501-040601-150	4PIN 60MM 2CONN CABLE AWG#28 2MMP IBOARD-IN(BLACK)	1
CN301	2503-121009-090	12PIN 100MM FLAT FLEXIBLE CABLE 1MMP	1
CN302	2503-131009-090	13PIN 100MM FLAT FLEXIBLE CABLE 1MMP	1
<b>IR Sensor, LED</b>			
U304	3001-860500-000	INFRAED SENSOR IRM8605S	1
D301, D302, D303, D304, D305, D306, D307, D308, D309, D310, D311, D312, D313, D314, D315, D316, D317, D319, D320, D321, D322, D323, D324, D326, D327, D328, D330, D331, D333, D334, D335, D336, D337, D338, D340, D341, D342, D346, D347, D348, D349, D350, D352, D353	3100-000330-003	LED 3MM GREEN (LITON BIN3 RINK:PG)	44
<b>IC</b>			
U303	4116-410002-500	I.C. LB1641 SIL (SANYO)	1
U302	4140-510050-700	I.C. CD4051 8 CHANNEL ANALOG MUX/DEMUX	1
U301	4178-510013-200	I.C. W78E51 WINBOND 40DIP	1

**PCB, Misc**

4867-000040-003	HK670 KEY CONTROL BOARD REV C	1
6067-150010-000	LED BRACKET (LONG)	2
6067-150011-000	LED BRACKET (SHORT)	1
6600-210035-000	PADCOCK 10X10X7MM	1

**HEADPHONE BOARD ASSEMBLY**

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015000-021</b>	<b>HK670 HEADPHONE JACK BOARD ASSY REV A</b>	
<b>Capacitor</b>			
C1, C2	1100-103043-000	CERAMIC CAP. 0.01uF/50V +-10%	2
C3, C4	1102-471014-000	ELECT. CAP. 470uF/16V +-20% 8X12MM	2
<b>Connector, Jack</b>			
J1	2320-009911-003	6.4MM HEADPHONE JACK (JY-6303-02-030)GOLD PLATED	1
CN1	2501-032501-150	3PIN 250MM 2CON CABLEAWG#28 2MMP IBOARD-IN(BLACK)	1
<b>PCB</b>			
	4867-000020-001	HK670 HEADPHONE JACK BOARD REV A	1

**STANDBY SWITCH BOARD ASSEMBLY**

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015000-111</b>	<b>HK670 POWER CONTROL BOARD ASSY REV A</b>	
<b>Resistor</b>			
R1, R2	1004-701316-000	CARBON FILM RESISTOR 470 OHM 1/6 W +-5%	2
<b>Switch, Connector</b>			
SW841	2400-020200-000	TACT SW 2P2T KPT-1105A (5MM)	1
CN841	2501-050601-150	5PIN 60MM 2CONN CABLE AWG#28 2MMP IBOARD-IN(BLACK)	1
<b>LED</b>			
D841	3100-204000-001	LED 5MM BI- COLOR A/G #BL-BAG204	1
D1, D2	3100-420410-001	LED RED COLOR ROUND HEAD 3MM 4204-10SRT	2
<b>PCB</b>			
	4867-000110-002	HK670 POWER CONTROL BOARD REV B	1

**"VOLUME" LED BOARD ASSEMBLY**

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015000-191</b>	<b>HK670 LED LAMP BOARD ASSY REV A</b>	
CN1	2501-021301-150	2PIN 130MM2CONN CABLE AWG#28 2MMP IBOARD-IN(BLACK)	1
D1, D2	3100-000330-003	LED 3MM GREEN (LITON BIN3 RINK:PG)	2
	4867-000190-001	HK670 LED LAMP BOARD REV A	1

**MOTOR VOLUME BOARD ASSEMBLY**

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015000-311</b>	<b>HK670 VOLUME CONTROL BOARD ASSY REV A</b>	
<b>Resistor</b>			
R2	1001-001316-000	CARBON FILM RESISTOR 100 OHM 1/6 W +-5%	1
VR1	1065-003500-112	VOL. W/MOTOR 50KAX2 +-20% 1/20W (ALPS)	1
<b>Capacitor</b>			
C1	1100-104044-000	CERAMIC CAP. 0.1uF/50V +-20%	1
<b>Connector, Cable</b>			
CN3	2300-002000-001	STRAIGHT CONN WAFER 2PIN 2MMP JST	1
CN1	2300-004000-002	STRAIGHT CONN WAFER 4PINS 2MMP JST	1
CN2	2511-060601-150	6P 60MM 2CONN S.CABLE AWG#28 2MMP IBOARD-IN(BLACK)	1
	2600-100154-000	3MM+15MM+3MM JUMPER WIRE AWT#26 UL1007 BLACK	2
<b>PCB</b>			
	4867-000310-002	HK670 VOLUME CONTROL BOARD REV B	1

**MAIN POWER SWITCH BOARD ASSEMBLY**

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015001-171</b>	<b>HK670 POWER SWITCH BOARD ASSY REV A</b>	
R1	1083-305312-000	CERAMIC PACKAGE RESISTOR 3.3M OHM +-5% 1/2W	1
C1	1110-103094-001	X-TYPE CAP.0.01uF/AC 250V +-20% MURATA KH103M	1
C2, C3	1110-104094-001	X-TYPE CAP 0.1UF 250VAC +-20% ECQU2A104ML	2
TR1	1801-501300-000	THREMAL RESISTOR 5D-13(WELTRONICS)	1
SW1	2401-010100-001	POWER SW 1P1T 250V/5A/TV3 (KNE-K14S2)	1
F1, F2	2612-102702-000	270MM DOUBLE INSULATED WIRE AWG#22 UL1672(BLACK)	2
L1	4001-780000-000	COLL TOROID TC2006-6R8M-H	1
	4867-000170-103	HK670 POWER SWITCH BOARD REV C	1
AC1, AC2, F1, F2, T1, T2	6600-042304-000	EYELET 2.3X4MM	6

**VOLUME KNOB LED BOARD ASSEMBLY**



<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015001-191</b>	<b>HK670 VOLUME LAMP BOARD ASSY REV A</b>	
CN1	2501-021501-170	2PIN 150MM 2CONN RAINBOWWIRE AWG#32 2MMP 1BOARD-IN	1
D1	3100-000330-003	LED 3MM GREEN (LITON BIN3 RINK:PG)	1
	4867-000190-101	HK670 VOLUME LAMP BOARD REV A	1

### **SPEAKER SELECT SWITCH BOARD ASSEMBLY**

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015000-171</b>	<b>HK670 SPEAKER SELECT BOARD ASSY REV A</b>	
<b>Resistor</b>			
R1, R2	1008-201316-000	CARBON FILM RESISTOR 820 OHM 1/6 W +-5%	2
<b>Switch, Connector</b>			
SW1, SW2	2402-020200-005	PUSH SLIDE SWITCH 2P2T PS-22F08	2
CN1	2501-060801-151	6PIN 80MM 2CONN CABLE AWG#28 2MMP 1BOARD-IN(BLACK)	1
<b>PCB, Misc</b>			
	4867-000170-001	HK670 SPEAKER SELECT BOARD REV A	1
	6567-150006-000	HK670 HEADPHONE BRACKET	1
	7002-604010-111	SCREW M2.6X4 M/C TYP B/H BLK	2
	7003-006001-111	SCREW M3X6 S.T.P. B/H (BLACK)	2

### **REMOTE LINK, DIGITAL IN/OUT BOARD ASSEMBLY**

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015000-291</b>	<b>HK670 DIGITAL CONTROL BOARD ASSY REV A</b>	
<b>Resistor</b>			
R904	1001-001316-020	CARBON FILM RESISTOR 100 OHM 1/6W +-5% AXIAL TAPE	1
R908	1001-004316-020	CARBON FILM RESISTOR 100K OHM 1/6W +-5% TP52	1
R907	1002-701316-020	CARBON FILM RESISTOR 270 OHM 1/6W +-5% AXIAL TAPE	1
R906	1003-902316-020	CARBON FILM RESISTOR 3.9K OHM 1/6W +-5% AXIAL TAPE	1
R901, R902	1004-700316-020	CARBON FILM RESISTOR 47 OHM 1/6W +-5% TP52	2
R903	1004-703316-020	CARBON FILM RESISTOR 47K OHM 1/6W +-5% TP52	1
<b>Capacitor</b>			
C906	1100-102045-000	CERAMIC CAP. 0.001UF/50V +80% -20%	1
C904	1100-681043-000	CERAMIC CAP. 680PF/50V +-10%	1
C903	1102-100044-000	ELECT. CAP. 10UF/50V +-20%	1
C902	1102-101024-000	ELECT. CAP. 100UF/25V +-20%	1
C901	1102-470024-000	ELECT. CAP. 47UF/25V +-20%	1
<b>Transistor, Diode</b>			
Q902, Q903, Q904, Q905	1300-100300-100	TRANSISTOR NPN KSR1003 (SAMSUNG)	4
Q901	1301-200300-100	TRANSISTOR PNP KSR2003 (SAMSUNG)	1
D901, D902, D903, D904, D905, D906	1401-141480-010	DIODE 1N4148 TAPE	6
<b>Connector, Jack</b>			
J901, J902	2321-003911-002	MIC JACK 3.5MM JY-3510-01-010	2
J903, J904	2330-004990-000	RCA JACK 4PIN RCA-214 (ORANGE) GOLD	2
CN901	2501-060801-151	6PIN 80MM 2CONN CABLE AWG#28 2MMP 1BOARD-IN(BLACK)	1
<b>Relay</b>			
RL901, RL902, RL903	4050-000005-002	RELAY ME-2-5 DC 5V GS-SH-205T 120ohm	3
<b>IC</b>			
U901	4181-700010-000	I.C. LTV817B LITON	1
<b>PCB</b>			
	4867-000290-001	HK670 DIGITAL CONTROL BOARD REV A	1

### **HK670 MAIN UNIT MECHANICAL PART LIST**

<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
<b>9667-015000-001</b>	<b>HK670 230V VDE ASSY (HARMAN KARDON HK670)EMC+LVD,A</b>	
2503-165006-690	16PIN 500MM FLAT CABLE 1MMP	1
2511-023201-150	2PIN 320MM 2CONN SHIELD CABLE AWG#28 2MMP(BLACK)	1
2511-027201-150	2PIN 720MM 2CONN SHIELD CABLE AWG#28 2MMP(BLACK)	1
2511-046601-150	4PIN 660MM 2CONN SHIELD CABLE AWG#28 2MMP(BLACK)	1
2610-220009-004	2000MM AC CORD VDE HO5VV-F 2GX1.0MM2	1
3200-307541-400	TRANSFORMER 230V VDE 0696V3075TM4 (NGAI CHEONG)	1
4002-311975-000	TOROID COILS 'T31X19X7.5MM'	1
4030-315250-000	FUSE T3.15A L 250V SLOW BLOW	1
4031-000002-000	FUSE HOLDER FH-B02	1
5110-671500-100	TRANSFORMER "HARMAN/KARDON" UL LABEL GOLD/BLACK	1

6029-010012-001-01	PLASTIC FOOT (HOT STAMPING)	4
6067-150002-000-01	HARMAN KARDON HK-670 DISPLAY LENS (W SILKSCREEN)	1
6067-150004-000-01	POWER BUTTON (GOLD) WITH SPRAT (BLK)	1
6067-150006-000-01	BALANCE KNOB (BLACK) WITH SPRAY	3
6067-150012-001	HK670 DIFFUSION SHEET A	1
6067-150013-001	HK670 DIFFUSION SHEET B	1
6067-150014-001	HK670 DIFFUSION SHEET C	1
6067-150015-001	HK670 DIFFUSION SHEET D	1
6067-150016-001	HK670 KNOB CORK	8
6567-150001-000-01	HK670 BOTTOM CABINET WITH BLALK SPRAY INSIDE	1
6567-150002-000-01	TOP COVER (BLACK) WITH DOUBLE SIDE SPRAY	1
6567-150003-000-02	HARMAN KARDON HK670 REV.1 230V R/P W/SILKSCEER	1
6567-150004-000-01	HK670 SHIELD-PLATE WITH BLACK SPRAY	1
6567-150005-000-01	HK670 HEAT SINK MOUNTING PLATE WITH BLACK SPRAY	2
6567-150007-000	HK670 PCB BRACKET	2
6567-150009-000-01	GROUND SHEET Ni-PLATED	1
6583-810004-000	HARMAN KARDON LOGO BADGE	1
6600-070003-000	CD90R05 RUBBER PAD.LEG	4
6600-104001-000	HEAT SHRINK TUBE 40MM DIA L=95MM	1
6600-120050-100	NUT M5	4
6600-180017-000	AC CORD BUSHING SB5R-5	1
6600-200002-000	HK670 DOUBLE SIDE TAPE B	1
6600-200003-000	HK670 DOUBLE SIDE TAPE C	1
6600-200004-000	HK670 DOUBLE SIDE TAPE D	1
6600-200005-000	HK670 DOUBLE SIDE TAPE E	1
6600-210097-000	SPONGE PAD A 104X6.5X5.0t FOR PREVENTTING SHOCKING	2
6600-210098-000	SPONGE PAD B 240X6.5X3.0t FOR PREVENTTING SHOCKING	2
6600-990023-000	GROUND TERMINAL	1
7003-006001-001	SCREW M3x6 S.T.P BW/H (BLACK)	2
7003-006001-001	SCREW M3x6 S.T.P BW/H (BLACK)	4
7003-006001-111	SCREW M3X6 S.T.P. B/H (BLACK)	39
7003-006001-113	SCREW M3X6 S.T.P. B/H NI-PLATED	4
7003-006010-111	SCREW M3X6 M.C. B/H, BLK	19
7003-008001-111	SCREW M3X8 S.T.P. B/H BLK	8
7003-008002-111	SCREW M3X8 P.T.P. B/H (BLACK)	14
7003-014010-111	SCREW M3X14 M/C TYPE B/H BLK	4
7005-012010-112	SCREW M5X12 M/C TYPE B/H ZN-PT	4
7105-008512-053	SPRING LOCK WASHER (METAL) 5X8.5X1.2 NI-PLATED	4
7105-215010-022	METAL WASHER 5.2X15X1.0 MM ZN	4
9467-015000-071	HK670 POWER SUPPLY BOARD ASSY REV A	1
9467-015000-091	HK670 RIGHT CHANNEL POWER AMPLIFIER ASSY REV A	1
9467-015001-091	HK670 LEFT CHANNEL POWER AMPLIFIER ASSY REV A	1
9467-015001-171	HK670 POWER SWITCH BOARD ASSY REV A	1
9467-015000-291	HK670 DIGITAL CONTROL BOARD ASSY REV A	1
9467-015000-571	HK670 I/O BOARD ASSY REV A	1
<b>8567-015000-301</b>	<b>HK670 FRONT PANEL ASSY (HARMAN KARDON HK670) REV A</b>	
6067-150001-000-01	HARMAN KARDON HK-670 F/P (W PRINTED)	1
6067-150003-000-01	VOLUME KNOB (BLACK) WITH SPRAY	1
6067-150005-000-01	SPEAKER BUTTON (BLACK) WITH SPRAY	2
6067-150007-000-01	CONTROL BUTTON(GOLD)WITH(BLACK)SPRAY AND SILKSCEEN	1
6067-150008-000-01	HK670 VOLUME LED WITH MILK SPRAY	1
6083-810014-000-01	BUTTON STANDBY, PAINTED	1
6083-810015-000	INDICATOR, STANDBY SAN(MILKY)	1
6600-210098-000	SPONGE PAD B 240X6.5X3.0t FOR PREVENTTING SHOCKING	0.25
7003-006002-111	SCREW M3X6 P.T.P. B/H (BLACK)	1
7003-008002-111	SCREW M3X8 P.T.P. B/H (BLACK)	16
9467-015000-021	HK670 HEADPHONE JACK BOARD ASSY REV A	1
9467-015000-041	HK670 KEY CONTROL BOARD ASSY REV A	1
9467-015000-111	HK670 POWER CONTROL BOARD ASSY REV A	1
9467-015000-171	HK670 SPEAKER SELECT BOARD ASSY REV A	1
9467-015000-191	HK670 LED LAMP BOARD ASSY REV A	1
9467-015001-191	HK670 VOLUME LAMP BOARD ASSY REV A	1
9467-015000-311	HK670 VOLUME CONTROL BOARD ASSY REV A	1
9467-015000-561	HK670 TONE CONTROL BOARD ASSY REV A	1

**HK670 PARKING MATERIAL**



<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
9767-015000-001	HK670 PACKING ASSY (HARMAN KARDON HK670) REV A	1
2617-210004-001	3.5MM MIC CABLE 2CONN 1000MM AWG#26 UL2468	1
4090-150001-000	AA ALKALINE BATTERIES	2
5000-671500-100	POLYFOAM LEFT	1
5000-671500-200	POLYFOAM RIGHT	1
5013-671500-000-02	HARMAN KARDON HK670 REV.1 230V CARTONBOX W/PRINTED	1
5100-671500-100	HARMAN KARDON HK670 I/B REV.1	1
5110-671500-200	HK-670 CARTON LABEL 4.5X2.5 CM	2
5110-838000-000	INSTRUCTION LABEL	1
5113-000000-000	SERIAL NUMBER LABEL, BLANK (6.5X35.5MM)	2
5113-000000-000-24	MANUFACTURE DATE CODE LABEL FOR HK-670 (230V)	1
5113-838000-000-04	HK670 S/N BAR CODE LABEL (YC0012-01001)	3
5200-100180-030	POLYBAG FOR AUDIO CORD	1
5200-230321-030-01	POLYBAG FOR ACCESSORIES (FL8350/FL8550)	1
5200-600600-040-03	POLYBAG FOR UNIT (FL8350/FL8550)	1
5206-500160-050	E.P.E. SHEET P-EP500160-05	1

### HK670 REMOTE UNIT PART LIST

#### REMOTE UNIT MECHANICAL PART LIST

<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
<b>9805-020000-081</b>	<b>REMOTE UNIT (RT02) W/30 KEYS FOR HK670 REV A</b>	
5200-080250-030	POLYBAG 80X250X3C MM	1
6002-000001-000-21	HK670 RT-02 ROMOFE TOP-COVER WITH SILKSCREEN	1
6002-000002-000	RT02-P002 CASE BOTTOM	1
6002-000003-001	RT02-P003 COVER BATTERY	1
6003-000001-000-34	HK670 REMOTE INLAY WITH SILKSCREEN	1
6600-010156-002	CONTACT BATTERY, COMMON	1
6600-010157-000	RT02-S002 CONTACT BATTERY POS	1
6600-010158-001	CONTACT BATTERY, NEGATIVE	1
6600-070007-000	RT-03 KEY PAD W/32 KEY	1
7002-008002-021	SCREW M2X8 P TYPE P/H BLK	1
9467-015000-081	HK670 REMOTE BOARD ASSY REV A	1

#### IR REMOTE BOARD ASSEMBLY

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quality</u>
	<b>9467-015000-081</b>	<b>HK670 REMOTE BOARD ASSY REV A</b>	
<b>Resistor</b>			
R2	1001-800316-000	CARBON FILM RESISTOR 180HM 1/6W +-5%	1
R1	1003-001316-000	CARBON FILM RESISTOR 300 OHM 1/6W +-5%	1
<b>Capacitor</b>			
C1	1100-104044-000	CERAMIC CAP. 0.1uF/50V +-20%	1
C2	1102-101114-000	ELECT. CAP. SMALL 5MML 100UF/6.3V +-20%	1
C3, C4	1181-300042-000	CERAMIC CAP. 30PF/50V +-5% NPO	2
<b>IC, Transistor, Diode</b>			
Q1	1300-212000-100	TRANSISTOR NPN C2120Y TO-92	1
D1	3101-333000-000	INFRARED LED IR333C/HO	1
U1	4205-670000-600	HK670 REMOTE MCU UPD64A (NEC)	1
<b>PCB, Misc</b>			
X1	1602-364002-000	CERAMIC RESONATOR 3.64MHZ +-0.5%	1
	4867-150080-001	HK670 REMOTE BOARD REV A	1