



C36
AUDIO CONTROL
CENTER

IMPORTANT SAFETY INSTRUCTIONS

THESE
INSTRUCTIONS
ARE TO PROTECT
YOU AND THE
McINTOSH
INSTRUMENT.
BE SURE TO
FAMILIARIZE
YOURSELF
WITH THEM

1. Read all instructions - Read the safety and operating instructions before operating the instrument.
2. Retain Instructions - Retain the safety and operating instructions for future reference.
3. Heed warnings - Adhere to warnings and operating instructions.
4. Follow Instructions - Follow all operating and use instructions.

WARNING: TO REDUCE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS INSTRUMENT TO RAIN OR MOISTURE

5. Power Sources - Connect the power supply only to the type described in the operating instructions or as marked on the unit.
6. Power-Cord Protection - Route power-supply cords so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the instrument.
7. Ventilation - Locate the instrument for proper ventilation. For example, the instrument should not be placed on a bed, sofa, rug, or similar surface that may block ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet, that may impede the flow of air through the ventilation openings.
8. Heat - Locate the instrument away from heat sources such as radiators, heat registers, stoves, or other appliance (including amplifiers) that produce heat.
9. Wall or Cabinet Mounting - Mount the instrument in a wall or cabinet only as described in the owner's manual.
10. Water and Moisture - Do not use the instrument near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
11. Cleaning - Clean the instrument by dusting with a dry cloth. Clean the panel with a cloth moistened with a window cleaner.
12. Object and Liquid Entry - Do not permit objects to fall and liquids to spill into the instrument through enclosure openings.
13. Nonuse Periods - Unplug the power cord from the AC power outlet when left unused for a long period of time.
14. Damage Requiring Service - Service must be performed by qualified service personnel when:
 - A. The power supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the instrument; or
 - C. The instrument has been exposed to rain; or
 - D. The instrument does not appear to operate normally or exhibits a marked change in performance; or
 - E. The instrument has been dropped, or the enclosure damaged.
15. Servicing - Do not attempt to service beyond that described in the operating instructions. All other service should be referred to qualified service personnel.
16. Grounding or Polarization - Do not defeat the inherent design features of the polarized plug. Non-polarized line cord adaptors will defeat the safety provided by the polarized AC plug.
17. **CAUTION: TO PREVENT ELECTRICAL SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.**

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.



The lightning flash with arrowhead, 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.



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



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: THIS UNIT IS CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS. CONTINUED EXPOSURE TO HIGH SOUND PRESSURE LEVELS CAN CAUSE PERMANENT HEARING IMPAIRMENT OR LOSS. USER CAUTION IS ADVISED AND EAR PROTECTION IS RECOMMENDED WHEN PLAYING AT HIGH VOLUMES.

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The serial number, purchase date, and McIntosh Laboratory Service Contract number are important to you for possible insurance claim or future service. Record this information here.

Serial Number

Purchase Date

Service Contract Number

Upon application, McIntosh Laboratory provides a Service Contract to the original purchaser. Your McIntosh Authorized Service Agency can expedite repairs when you provide the Service Contract with the instrument for repair.

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TAKE ADVANTAGE OF 3 YEARS OF CONTRACT SERVICE. . .
FILL IN THE APPLICATION NOW.

Your C36 Audio Control Center will give you many years of satisfactory performance. If you have any questions, please contact,

McIntosh Laboratory Inc.

2 Chambers Street
Binghamton, New York 13903-2699
Phone: 607-723-3512

**McINTOSH
THREE YEAR
SERVICE
CONTRACT**

An application for A THREE YEAR SERVICE CONTRACT is included with this manual.
The terms of the contract are:

1. If the instrument covered by this contract becomes defective, McIntosh will provide all parts, materials, and labor needed to return the measured performance of the instrument to the original performance limits free of any charge. The service contract does not cover any shipping costs to and from the authorized service agency or the factory.
2. Any McIntosh authorized service agency will repair all McIntosh instruments at normal service rates. To receive the free service under the terms of the service contract, the service contract certificate must accompany the instrument when taken to the service agency.
3. Always have service done by a McIntosh authorized service agency. *If the Instrument is modified or damaged as a result of unauthorized repair the service contract will be cancelled.* Damage by improper use or mishandling is not covered by the service contract.
4. The service contract is issued to you as the original purchaser. To protect you from misrepresentation this contract cannot be transferred to a second owner.
5. Units in operation outside the United States and Canada are not covered by the McIntosh Factory Service Contract, irrespective of the place of purchase. Nor are units acquired outside the USA and Canada, the purchasers of which should consult with their dealer to ascertain what, if any, service contract or warranty may be available locally.

INTRODUCTION

McIntosh has earned world renown for its technical contributions to improved sound reproduction. When you bought McIntosh, you bought not only high technology, but also technological integrity proven by time. The McIntosh C36 Audio Control Center is the newest evidence of McIntosh engineering excellence.

McIntosh audio products have always been designed for the best sound and superior reliability. Dedication to achieving these goals since 1949 has earned McIntosh the reputation for creating the finest quality products in the stereo industry. The McIntosh "Classic" design has also been recognized as the most outstanding in the industry.

McIntosh products are designed to be maximum user friendly so anyone can easily enjoy using them. Another McIntosh design policy is to provide products that are easy to maintain.

The C36 Audio Control Center is simple, yet elegant. There are many useful features to enhance your listening enjoyment.

There are nine pairs of high level inputs to accommodate the traditional program sources as well as the most recent new sources. These include CD players, audio signals from laser disc players and audio from video recorders. A low level input is also provided for a record player with a magnetic phono cartridge.

DIGITAL LOGIC integrated circuits drive ELECTROMAGNETIC SWITCHES on all inputs and operating functions for the most reliable, lowest distortion switching available today.

Separate Record and Listen circuits allow for recording from one source while listening to another. A continuously variable Active Loudness control allows loudness compensation to be selected for any setting of the volume control. The Loudness control circuit elements are removed from the signal path when the control is in the flat or fully counterclockwise position.

Bass and Treble tone controls provide 12dB of boost or cut. At the center or detent position of the tone controls, all tone control circuits are removed from the signal path.

Two Signal Processor loops are provided, one for RECORD signals and one for LISTEN signals. Power supply voltage regulator circuits maintain stable operation even though the AC power line may vary. A double shielded power transformer completely isolates it from the audio circuits.

Front panel push buttons control two switched outputs as well as two pairs of speakers when the optional SCR3 switching relay is added.

LOCATION

The C36 may be installed in a matching McIntosh cabinet, or custom installed in furniture of your choice. Always provide adequate ventilation for your Audio Control Center, even though it generates little heat. Do not install the unit directly above heat generating components such as high powered amplifiers. Allow at least 1 1/2 inches (3.8cm) space above the preamplifier so cooling air flow is not obstructed. The recommended minimum space for installation is 18 1/2 inches (47cm) wide, 6 inches (15.3cm) high and 15 1/2 inches (40cm) deep, including clearance for connectors. Allow 1 1/2 inches (3.8cm) in front of the mounting panel for knob clearance. The trouble free life of any electronic instrument is greatly extended by providing sufficient ventilation. This prevents the build-up of internal temperatures that can cause deterioration of circuit components.

INSTALLATION

INSTALLATION

McINTOSH PANLOC MOUNTING SYSTEM

The PANLOC system of installing equipment is a product of McIntosh research. Two steel PANLOC mounting shelves are attached to the front panel at each side of the panel cutout, using the screws and brackets provided. The C36 has runners on the bottom of its chassis, allowing it to slide into the shelves. When the unit has been positioned fully into the cabinet and its front panel rests against the cabinet panel, it can be locked into position. Turn each PANLOC button one-quarter turn clockwise to lock. Turn counterclockwise to unlock the unit so it can be removed from the cabinet.

UNPACKING

Open the carton and remove the PANLOC shelves, the hardware package and the mounting template. Lift the C36 up off the shipping pallet and remove the plastic bag. The C36 is now ready for shelf or table top installation.

If the C36 is to be installed in a McIntosh cabinet or custom installation, place it carefully upside-down on a flat surface and unscrew the four plastic feet.

INSTALLING IN A McINTOSH CABINET

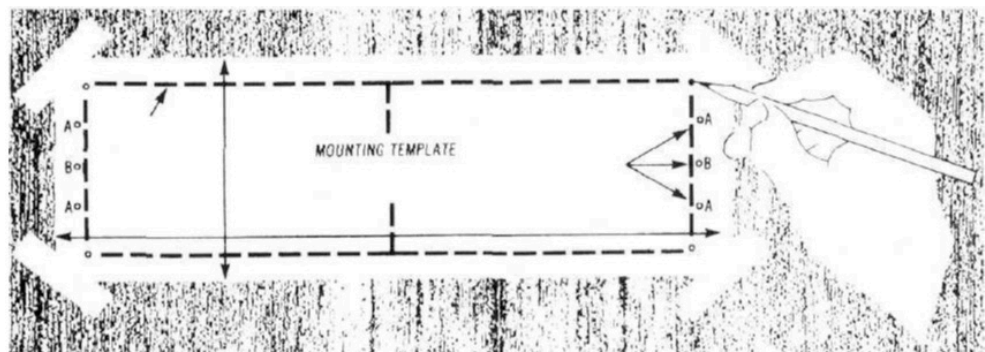
Install the PANLOC shelves to the front side of the two brackets attached to the left and right inside edges of the cabinet. Use the four 6/32 by 1-1/4 inch (32.8mm) fillister head screws included in the hardware package.

Guide the C36 AC power cord through the front panel opening, to the back of the back of the cabinet. Slide the unit into the opening, making sure the rails on the bottom of each side of the amplifier chassis engage the tracks on the PANLOC shelves. Slide the unit completely into the cabinet until the back edge of its front panel is pressing gently against the front of the cabinet panel. Turn the PANLOC buttons approximately one quarter turn clockwise to lock the unit in the cabinet. Turn the PANLOC buttons one quarter turn counterclockwise to unlock the unit so it can be removed from the cabinet.

CUSTOM INSTALLATION

1. MARK THE CABINET FRONT PANEL

Tap the plastic mounting template to the cabinet panel in the position where the unit is to be mounted. The broken lines that represent the outline of the rectangular cutout also represent the outside dimensions of the C36 chassis. Make sure these lines clear any shelves, partitions or any other equipment mounted in the same cabinet. With the template in place, first mark the six A and B holes, and the four small holes that locate the corners of the cutout. Then join the four corner markings with a ruler or straightedge.



INSTALLATION

2. DRILL THE HOLES

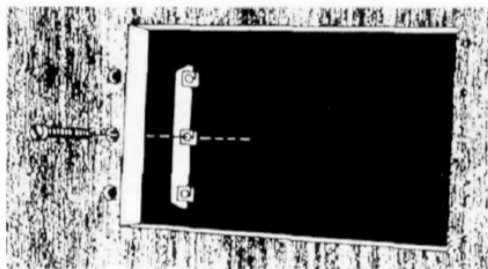
Use a drill with a 3/16 inch (5mm) bit. Drill perpendicular to the front panel the six A and B holes. Then, using a drill bit slightly larger than the tip of your saw blade, drill one hole at each of two diagonally opposite corners. The holes should barely touch the inside edge of the penciled outline. Before taking the next step, be sure the six A and B holes have been drilled.

3. SAW THE PANEL CUTOUT

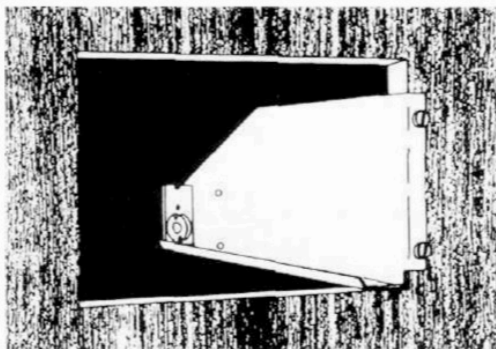
First make the two long horizontal cuts. Then make the two short vertical cuts. After the cutout is finished, use a file to square the corners and smooth any rough edges.

4. INSTALL THE PANLOC MOUNTING STRIPS

The hardware package includes two mounting strips and two black flat head 6/32 x 1-1/4 inch (31.8mm) screws and four 6/32 x 1-1/4 inch (31.8mm) fillister head screws. Place a mounting strip behind each edge of the cutout and secure it to the back side of the panel inserting a black flat head 6/32 screw through the center holes marked B on the template. Make sure the screws are drawn flush or slightly into the wood before attaching the PANLOC shelves.



5. ATTACH THE PANLOC SHELVES



Position the PANLOC shelves inside the cutout with the short flange against the front face of the cabinet panel. Fasten the shelves by inserting two fillister head 6/32 screws through the holes in each of the PANLOC shelf flanges, through the front panel and into the threaded receptacle on the mounting strips.

6. INSTALL THE C36

Guide the C36 AC power cord through the panel opening to the back of the cabinet. Slide the unit into the opening, making sure the rails on the bottom of each side of the chassis engage the tracks on the PANLOC shelves. Slide the unit completely into the cabinet until the back side of its front panel is pressing gently against the front of the cabinet panel. Turn the PANLOC buttons approximately one-quarter turn clockwise to lock the unit in the cabinet. Turn the PANLOC buttons one-quarter turn counterclockwise to unlock the unit so it can be removed from the cabinet.

FRONT PANEL CONTROLS

The back cover of this manual folds out to show photographs of the front and rear panels of the C36. Fold it out to assist you in identifying and locating the controls and switches on the C36 front panel, and the connectors on the rear panel. The letters and numbers on the photographs refer to the paragraphs that follow.

A. BASS AND TREBLE

Provide 12dB boost and cut. with neutral center detent position.

B. RECORD

Selects the program signal that will feed to the TAPE 1 and 2 OUTPUTS.

C. LISTEN

Selects the program signal that feeds the MAIN and SWITCHED 1 and 2 OUTPUTS.

D. VOLUME

Adjusts the volume level at the MAIN and SWITCHED 1 and 2 OUTPUTS. The TAPE OUTPUTS are not affected by the VOLUME control settings.

E and F. LOUD (Loudness) and BALANCE (concentric controls)

The BALANCE control, (large outer knob), adjusts the volume of the channels relative to each other.

L, (left): Turn the control to the left to accent the left channel by reducing the volume of the right channel.

R, (right): Turn the right to accent the right channel by reducing the volume in the left channel.

The LOUDness control, (small inner knob), provides frequency response contoured to compensate for the behavior of the human ear at softer listening levels. At the fully counterclockwise detent position, the frequency response is perfectly flat and the loudness circuit components are removed from the signal path. Turn the control clockwise to increase both bass and treble frequencies in the correct proportion for proper listening at softer volume levels. The compensated frequency response is not affected by changes in the volume control settings. First adjust the volume for the desired listening level, then adjust the loudness control to the setting you prefer.

THE FIVE PUSH BUTTONS ARE PRESS AND RELEASE, WITH LED INDICATORS TO SHOW THE SELECTED OPERATING FUNCTIONS.

G. SPEAKERS 1 AND 2

Press SPEAKERS 1 to turn on the LISTEN SWITCHED OUTPUTS 1. These outputs allow you to switch the C36 signals to other power amplifiers or accessories.

If the optional SCR3 Switching Relay is connected, the pair of speakers connected to the speaker 1 terminals will turn ON. A green LED indicator will also illuminate next to the switch. Press SPEAKERS 1 again to turn the speakers OFF.

Press SPEAKERS 2 to turn ON and OFF the second set of LISTEN SWITCHED OUTPUTS or speakers in a similar manner.

H. POWER

Press the red POWER button to turn the C36 system ON. Press again to turn it OFF.

I. MONO (Monophonic)

Press the MONO button to add the left and right channel signals together for MONO signals at the LISTEN MAIN, SWITCHED 1 and SWITCHED 2 OUTPUTS. A green LED indicator next to the switch will illuminate to indicate the MONO mode of operation. The MONO switch does not affect the TAPE outputs. They are always stereo.

J. MUTE

Press the MUTE button to turn off the Main, Switched 1 and 2 outputs. A RED LED indicator left of the pushbutton will illuminate to indicate the MUTE condition. Press MUTE again to restore normal sound. The TAPE outputs are not affected by the MUTE button.

K. HEADPHONES

Plug in a pair of low impedance dynamic headphones to this jack for headphone listening.

L. PANLOC

Turn the PANLOC buttons approximately 1/4 turn clockwise to lock the C36 in place. Turn the buttons counterclockwise to unlock the unit for removal.

Use good quality shielded cables to interconnect the associated equipment used with the preamplifier. The installation of proper quality cables will insure the best possible performance from your stereo system. Your dealer can advise you on the type and length of cables best suited for your installation.

LISTEN FUNCTIONS

1. MAIN OUTPUTS

Connect a cable from the C36 Left channel LISTEN MAIN OUTPUT to the Left channel power amplifier input. Connect a cable from the C36 Right LISTEN MAIN OUTPUT to the Right channel power amplifier input.

2. SWITCHED 1 AND 2 OUTPUTS

Two additional power amplifiers or accessory components can be connected to the SWITCHED 1 and 2 LISTEN OUTPUTS. Connect in a manner similar to the MAIN outputs. Audio output signals are fed to these jacks only when the appropriate front panel SPEAKER 1 or 2 switches are pressed.

This switching capability is useful when additional power amplifiers are used to power remote listening areas.

3. PROCESSOR-FROM and TO

An external signal processor can be added to the C36 which will affect only the LISTEN MAIN and SWITCHED 1 and 2 outputs.

The PROCESSOR-FROM jacks have built-in switching contacts to allow normal signals to pass through when no cables are connected. When an external processor is properly connected, the program signals feed to the processor from the PROCESSOR-TO jacks, and return to the C36 at the PROCESSOR-FROM jacks.

Connect a cable from the left channel processor output to the C36 left channel PROCESSOR-FROM jack. Connect a cable from the right channel signal output to the C36 right channel PROCESSOR-FROM jack.

Connect a cable from the C36 left channel PROCESSOR-TO jack to the signal processor left channel input. Connect a cable from the C36 right channel PROCESSOR-TO jack to the right channel signal processor input.

WHEN AN EXTERNAL SIGNAL PROCESSOR IS CONNECTED TO THE C36, THE PROCESSOR MUST BE TURNED ON AND OPERATING FOR A PROGRAM TO BE HEARD THROUGH THE SYSTEM.

FRONT PANEL CONTROLS

HOW TO MAKE CONNECTIONS ON THE REAR PANEL

HOW TO MAKE CONNECTIONS ON THE REAR PANEL

RECORD FUNCTIONS

4. TAPE OUTPUTS 1, 2 and 3

These outputs provide signals to feed as many as three separate tape recorders. The program that appears at the tape outputs is determined by the setting of the front panel RECORD switch.

Connect a cable from the C36 left channel TAPE 1 OUTPUT to the left channel high level input of a tape recorder. Connect a cable from the C36 right channel TAPE 1 OUTPUT to the right channel high level input of a tape recorder. Connect a second and third tape recorder in a similar manner.

5. PROCESSOR-FROM AND TO

An external signal processor can be added to the C36 which will affect only the TAPE RECORD OUTPUT jacks.

The PROCESSOR-FROM jacks have built-in switching contacts to allow normal signals to pass through when no cables are connected. When an external processor is properly connected, the program signals feed to the processor from the C36 PROCESSOR-TO jacks, and return to the C36 at the PROCESSOR-FROM jacks.

Connect a cable from the left channel processor output to the C36 left channel PROCESSOR-FROM jack. Connect a cable from the right channel processor output to the right channel PROCESSOR-FROM jack.

Connect a cable from the C36 left channel PROCESSOR-TO jack to the left channel processor input. Connect a cable from the C36 right channel PROCESSOR-TO jack to the processor right channel input.

WHEN AN EXTERNAL SIGNAL PROCESSOR IS CONNECTED TO THE C36, THE PROCESSOR MUST BE TURNED ON AND OPERATING FOR A PROGRAM TO BE FED TO THE TAPE OUTPUTS.

AUDIO INPUTS

6. VIDEO

Use these inputs for the audio signals from accessories such as a Laser Disc Player, VCR, or TV receiver.

Connect a cable from the left channel audio output of the video unit to the C36 L (Left) channel VIDEO INPUT. Connect a cable from the right channel output to the C36 R (Right) VIDEO INPUT.

7. TAPE 1, 2 and 3

Connect a cable from the left channel output of a tape recorder to the C36 L (Left) channel TAPE 1, 2 or 3 INPUT. Connect a cable from the right channel output to the C36 R (Right) TAPE 1, 2 or 3 INPUT

A total of three tape recorders can be connected to the C36. The Tape inputs can also be used for other accessory equipment with similar output levels.

IF MORE THAN ONE TAPE RECORDER IS CONNECTED TO BOTH RECORD AND PLAY, MAKE CERTAIN THAT THE INPUTS AND OUTPUTS ARE CONNECTED TO THE SAME MATCHING NUMBERED JACKS.

8. TUNER

Connect a cable from the left channel output of a tuner to the C36 L (Left) TUNER INPUT. Connect a cable from the right channel output to the C36 R (Right) TUNER INPUT.

9. CD1 and 2

Connect a cable from the left channel output of a CD player to the C36 L (Left) CD1 INPUT. Connect a cable from the right channel output to the C36 R (Right) CD1 INPUT. Connect a second CD player to the C36 CD2 inputs in a similar manner.

For example, CD1 inputs could be used for a single play CD player, and the CD2 inputs for a CD changer.

10. and 11. AUX (Auxiliary)/PH (Phono)

Both the PHono and Auxiliary input jacks are selected by the same position on the front panel LISTEN knob- One or the other input can be used, but not both simultaneously.

Connect the left channel high level output of any audio accessory unit to the C36 L (Left) Auxiliary INPUT. Connect the right channel accessory output to the C36 R (Right) Auxiliary INPUT. When cables are connected to the AUX input jacks, the PHono circuit is automatically bypassed.

To connect a record player with a magnetic phono cartridge, FIRST, remove any connecting cables from the Auxiliary input jacks.

Connect a cable from the left channel turntable output to the C36 L (Left) PHono INPUT. Connect a cable from the right channel to the C36 R (Right) PHono INPUT. If there is a separate ground wire from the turntable, connect it to the GND terminal.

The C36 phono input circuit is designed to accept the signals from a standard moving magnet phono cartridge.

AC POWER

12. SCR (Optional Accessory)

The SPEAKER CONTROL RELAY, Model SCR3 is designed to provide switching for two pairs of speakers using the C36 front panel SPEAKERS push buttons.

Two high current AC receptacles are also provided with 1800 watts current capacity to supply other components such as large power amplifiers. These outlets turn on and off with the C36 power switch, and are to be used when the accessory components demand more current than the 1500 watt rating of the C36 power switch.

Plug the computer type connector on the cable coming from the SCR3 into the SCR socket on the C36 rear panel. Plug the heavy AC cable from the SCR3 into a wall outlet.

DO NOT PLUG THIS HEAVY CABLE INTO ANY OF THE C36 REAR PANEL AC SOCKETS

13. SWITCHED AC RECEPTACLES

Eight AC receptacles are provided for accessory equipment. These receptacles turn on and off with the C36 Power switch.

14. UNSWITCHED AC RECEPTACLE

This AC receptacle will stay on at all times as long as the C36 power cord is connected to a live 60Hz power outlet. For example, this outlet could be used for a VCR that is programmed for future recording of a TV show when the main stereo system is turned off- You can also use this outlet for a record changer that has its own automatic shutoff feature.

THE TOTAL POWER CONSUMPTION OF ALL THE ACCESSORIES CONNECTED TO THE C36 BACK PANEL OUTLETS MUST NOT EXCEED 12.5 AMPERES OR 1500 WATTS.

15. AC POWER

Plug the C36 AC power cord into a 120 volt 60Hz wall outlet. The plug blades are polarized; so be certain the plug is fully inserted in the outlet to prevent blade exposure.

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT CONNECT THE POLARIZED AC PLUG ON THIS UNIT TO AN EXTENSION CORD OR OTHER AC OUTLET THAT IS NOT DESIGNED TO ACCEPT POLARIZED PLUGS. THE PLUG MUST BE FULLY INSERTED TO PREVENT BLADE EXPOSURE AND MAINTAIN LINE POLARITY.

HOWTO MAKE CONNECTIONS ON THE REAR PANEL

SPECIFICATIONS

PERFORMANCE LIMITS

Performance limits are the maximum deviation from perfection permitted for a McIntosh instrument. We promise you that when you purchase a new C36 from a McIntosh Franchised Dealer, it will be capable of performance at or better than these limits.

FREQUENCY RESPONSE

+0, -0.5dB from 20Hz to 20,000Hz

RATED OUTPUT

2.5V at MAIN and SWITCHED 1 and 2 Outputs

MAXIMUM VOLTAGE OUTPUT

8V from 20Hz to 20,000Hz at MAIN and SWITCHED 1 and 2 Outputs

TOTAL HARMONIC DISTORTION

0.002% maximum from 20Hz to 20,000Hz at rated output

SENSITIVITY

Phono: 2.5mV for 2.5V rated output, (0.5mV IHF)

High Level: 250mV for 2.5V rated output, (50mV IHF)

SIGNAL-TO-NOISE RATIO. A-WEIGHTED

Phono: 90dB below 10mV input, (84dB IHF)

High Level: 105dB below rated output, (95dB IHF)

MAXIMUM INPUT SIGNAL

Phono: 90mV

High Level: 10V

INPUT IMPEDANCE

Phono: 47K ohms and 65pF Capacitance

High Level: 22K ohms

VOLTAGE GAIN

Phono To Tape: 40dB

Phono To Main: 60dB

High Level To Tape: 0dB

High Level To Main: 20dB

TONE CONTROLS

Bass and Treble variable 12dB boost to 12dB cut

AC POWER OUTLETS

8 switched and 1 unswitched

Total current capacity 12.5 amperes, (1500 watts)

POWER REQUIREMENTS

120 Volts, 50/60Hz, 15 watts

MECHANICAL

SIZE

Front Panel measures 17-1/2 inches (44.5cm) wide by 5-3/8 inches (13.7cm) high. Chassis depth behind the mounting panel, including clearance for connectors, is 15-1/2 inches (40cm). Knob clearance required in front of mounting panel is 1-1/2 inches (3.8cm).

FINISH

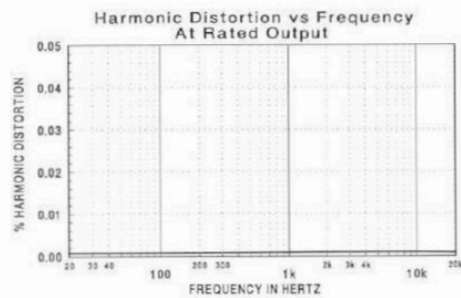
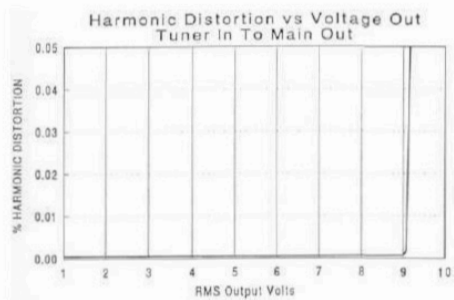
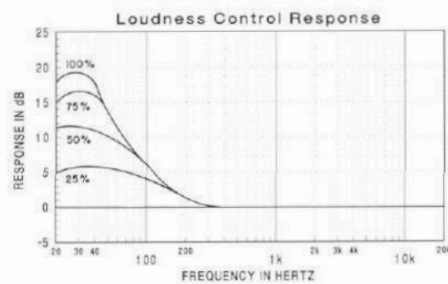
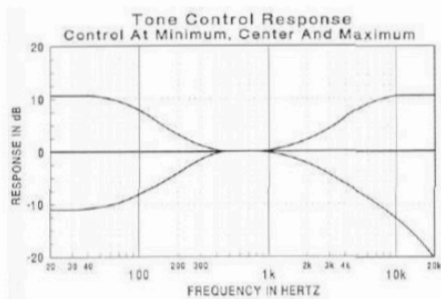
Top section of front panel is glass with gold/teal nomenclature illumination. Bottom section is anodized aluminum. The chassis is black.

MOUNTING

Exclusive McIntosh developed PANLOC.

WEIGHT

14.5 pounds (6.6Kg) net, 26.5 pounds (12Kg) in shipping carton



PERFORMANCE CHARTS

TECHNICAL DESCRIPTION

LOGIC DRIVEN CONTROL

All inputs, outputs and mode switching on the C36 are controlled by logic circuits that drive the electromagnetic switches. The front panel Record and Listen switches feed a pulse to a binary up-down counter, then to a binary decimal decoder, and finally to a transistor array that controls signals to the electromagnetic switches. The C36 pushbutton switches feed a momentary pulse to control the electromagnetic switches for their specific functions.

ELECTRO-MAGNETIC SWITCHING

All signal switching in the C36 is done by ELECTRO-MAGNETIC methods. ELECTRO-MAGNETIC switching is an old and proven technology that has been blessed with modern materials and manufacturing methods.

Each switch consists of a sealed glass tube that is filled with an inert oxygen free atmosphere, and sealed with tiny leads protruding from either end. These leads extend into the tube and overlap one another with a separation of a few thousandths of an inch. The leads are made from a ferrous material that is influenced by a magnetic field. They are first plated with gold as a base material, then with rhodium and ruthenium. Ruthenium is the best contact material known. The glass assembly is then placed in the center of a multi-layer coil of copper wire. The entire assembly is molded together in a tough shock absorbing plastic. The switch and coil connections extend from the bottom in the form of printed circuit board terminals.

When a DC voltage is applied to the coil, current flows and creates a magnetic field. The force of the field causes the leads to bend and contact one another inside the sealed glass tube. The inert oxygen free atmosphere eliminates corrosion of the contacts, insuring a low resistance, distortion free switch.

PHONO PREAMPLIFIER

The phono preamplifier uses a high technology integrated circuit operational amplifier that has an extremely wide frequency range capability. Its differential input stage has been optimized for low noise and low distortion. The open loop gain for this circuit is 100,000. With high open loop gain, a large amount of negative feedback can be used around this preamplifier section to reduce noise and distortion to an extremely low value. The feedback network also provides precision RIAA frequency equalization which follows the required response curve very accurately throughout the entire audio range. The network uses 1% tolerance metal film resistors and 5% tolerance polypropylene capacitors.

To achieve low-noise performance, it is essential that the feedback network have very low impedance. A circuit design of this type acts as a small power amplifier. This preamplifier section will actually produce more than 100 milliwatts output power. This extra margin of performance results in a phono preamplifier with extremely low distortion and noise.

This preamplifier circuit has a very wide dynamic range. It will accept up to 90 millivolts of input signal without overload. This is far greater than the maximum output voltage capability of any current model magnetic phono cartridge.

The sensitivity of this circuit is 2.5 millivolts for 2.5 volts at the main output. The gain is 40dB at 1000Hz. A signal input of 10 millivolts results in 1 volt at the Tape Outputs. The Tape Output source impedance of the phono preamplifier is 100 ohms, and will drive a load impedance of 10,000 ohms or higher.

LOUDNESS AMPLIFIER

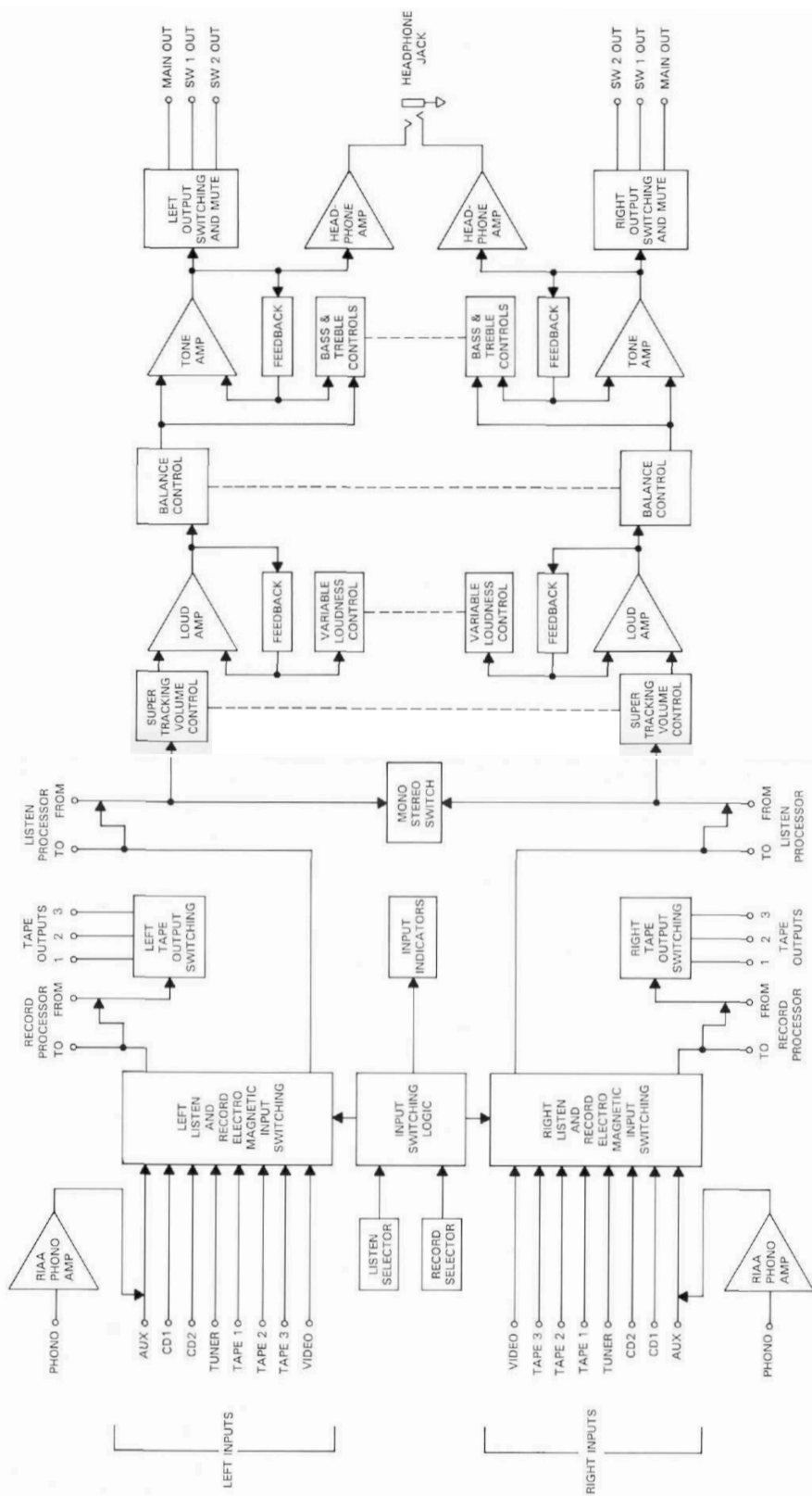
High level signals feed into the preamplifier past the input and mode switching, through the volume control and then into the loudness amplifier. The C36 uses an active loudness

TECHNICAL DESCRIPTION

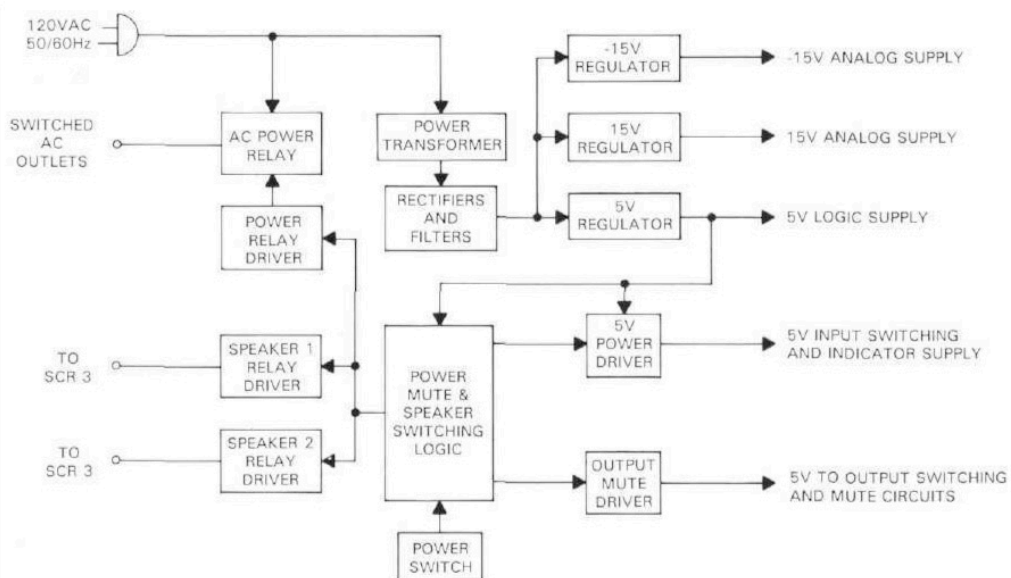
control circuit design. An integrated circuit operational amplifier is used with two separate feedback circuits. One feedback loop has flat frequency response, and the other loop has loudness compensation. A potentiometer placed between these two feedback loops makes it possible to select any degree of frequency response from flat, to full loudness compensation. The overall gain of the loudness circuit is 20dB, which remains constant at mid frequencies, regardless of the position of the loudness control. The bass and treble compensation increase from the reference gain, and the desired amount of loudness compensation can be selected at any volume control setting.

TONE CONTROL AMPLIFIER

The tone control amplifier uses high technology integrated circuit operational amplifiers. The output stages have been optimized for optimum transient performance and minimum distortion. Another set of operational amplifiers are arranged in a circuit configuration equivalent to series tuned circuits. The series tuned circuits can be inserted into either the input, or the feedback loop by means of a potentiometer. The proper choice of circuit components results in a 12dB boost or cut at the desired bass and treble frequencies. When the tone control potentiometers are at their center or detent positions, all tone control elements are removed from the signal path, and the frequency response is perfectly flat.



BLOCK DIAGRAMS



The letters correspond to the paragraphs on pages 8, 9, 10 and 11

