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You can read the recommendations in the user guide, the technical guide or the installation guide for RANE HC 6. You'll find the answers to all your questions on the RANE HC 6 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

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## RANE DATA SHEET HC 6 HEADPHONE CONSOLE



### General Description

The Rane HC 6 is one of the most indispensable products in today's audio industry. Featuring six stereo headphone amplifiers, the HC 6 performs a number of necessary tasks, not all of which are headphone related.

The HC 6 provides Master stereo Inputs which can be used to drive any or all of the 6 stereo headphone amplifiers. A Mono switch is provided on the front panel to drive both channels of all 6 amplifiers from a common mono source. Six individual unbalanced stereo Inputs are available to drive any individual amplifier from a separate stereo source. These Inputs can be converted to mono balanced Inputs through internal jumpers if required. Outputs for all six channels are provided on the front panel and on the rear panel so that

headphones may be connected on either side based on the requirements of a given installation. Two pairs of headphones may be driven from each channel, one pair connected to the front and one to the rear.

The HC 6 is capable of delivering up to 450 milliwatts into headphones with rated impedances between 32-600 ohms. The precise amount of power depends on the exact impedance of the headphone in use and the number of headphones connected to the unit. Under most conditions, the HC 6 produces sound pressure levels in excess of 120 dB. This level is more than adequate for most listeners.

See the RaneNote, "Understanding Headphone Power Requirements" for further information.

### Features

- Six Stereo Headphone Amplifiers
- Master Balanced/Unbalanced Stereo Inputs
- Six Unbalanced Stereo Inputs
- Six Output Level Controls
- Master Input Level Controls
- Stereo/Mono Switch
- Drives 32-600 ohm Headphones
- Front and Rear Output Jacks
- UL/CSA/CE and 100/120/230 VAC Remote Power Supplies

Data Sheet-1



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**Manual abstract:**

Featuring six stereo headphone amplifiers, the HC 6 performs a number of necessary tasks, not all of which are headphone related. The HC 6 provides Master stereo Inputs which can be used to drive any or all of the 6 stereo headphone amplifiers. @@@@Outputs for all six channels are provided on the front panel and on the rear panel so that headphones may be connected on either side based on the requirements of a given installation. Two pairs of headphones may be driven from each channel, one pair connected to the front and one to the rear. The HC 6 is capable of delivering up to 450 milliwatts into headphones with rated impedances between 32-600 ohms. The precise amount of power depends on the exact impedance of the headphone in use and the number of headphones connected to the unit. Under most conditions, the HC 6 produces sound pressure levels in excess of 120 dB. This level is more than adequate for most listeners. See the RaneNote, "Understanding Headphone Power Requirements" for further information. Features . . . . Six Stereo Headphone Amplifiers Master Balanced/Unbalanced Stereo Inputs Six Unbalanced Stereo Inputs Six Output Level Controls . . . . Master Input Level Controls Stereo/Mono Switch Drives 32-600 ohm Headphones Front and Rear Output Jacks UL/CSA/CE and 100/120/230 VAC Remote Power Supplies Data Sheet-1 HC 6 HEADPHONE CONSOLE Specification Limit Units Conditions/Comments 1 Channel Driven Max Avg (RMS) Power, 20-20 kHz 450 5% mW 32 ohm headphones 390 5% mW 50 ohm headphones 285 5% mW 100 ohm headphones 150 5% mW 200 ohm headphones 100 5% mW 300 ohm headphones 80 5% mW 600 ohm headphones 6 Channels Driven 240 5% mW 32 ohm headphones 250 5% mW 50 ohm headphones 180 5% mW 100 ohm headphones 130 5% mW 200 ohm headphones 100 5% mW 300 ohm headphones 75 5% mW 600 ohm headphones (Note: Above values produce loudness levels of 120 dB in most headphones) Headphone Impedance Range 32-600 10% ohms For best performance Inputs: Type Active Balanced/Unbalanced .

.....  
...Connectors 1/4" TRS ..  
.....Impedance 20k 1% ohms ...

.....Maximum Level +20 1 dBu Outputs: Type (6) Stereo Amplifiers (6) Outs front + (6) Outs rear ....

.....  
Connectors 1/4" Tip = Left, Ring = Right .....

....Impedance 7.5 5% ohms Headphone Outputs Overall Gain Range Off to +28 1 dB LED Threshold: Signal Present -20 1 dBu Input Level Ultrasonic Filter 20 kHz, 6 dB/octave 5% Hz Linear phase Frequency Response 20-20 kHz +0/-3 dB THD+Noise 0.005 .002 % 150 mW/200 ohms, 1 kHz, 1 channel 0.1 .02 % 150 mW/200 ohms, 20-20 kHz, 1 ch IM Distortion (SMPTE) 0.

05 .01 % 60 Hz/7 kHz, 4:1, 150 mW/200 ohms Signal-to-Noise Ratio -94(main)/-104(channel) 2 dB re 150 mW/200 ohms, 20 kHz BW Mean Time Between Failure 20,500 Hrs Mil Hdbk-217D, Section V Unit: Agency Listing .....

120 VAC model Class 2 Equipment National Electrical Code UL / CSA Exempt Class 2 equipment .....

....230 VAC model CE-EMC EMC Directive 89/336/EEC CE-Safety Exempt Per Article 1 of LV directive 73/23/EEC .

.....100 VAC model Built to JIS Japan Only Power Supply: Agency Listing .

.....120 VAC model UL File no. E88261 CSA File no. LR58948 .....

....230 VAC model CE-EMC EMC Directive 89/336/EEC CE-Safety LV directive 73/23/EEC .

.....Requirement 18 VAC with Center Tap 10% Vrms Rane RS 1 supplied .

.....Maximum Current 750 mA RMS current from remote supply Unit: Construction All Steel .

.....  
...Size 1.75"H x 19"W x 5.  
3"D (1U) (4.4 cm x 48.3 cm x 21.6 cm) .....

..Weight 6 lb (2.7 kg) Shipping: Size 4.25" x 20.3" x 13.75" (11 cm x 52 cm x 35 cm) ....

Weight 12 lb (5.4 kg) Note: 0 dBu = 0.775 Vrms Parameter Power Output: Data Sheet-2 HC 6 HEADPHONE CONSOLE Block Diagram LEFT MASTER INPUT 0 dB 0 dB MONO MASTER LEVEL RIGHT MASTER INPUT 0 dB 0 dB SIGNAL SENSE G SIGNAL PRESENT STEREO\* IN 1 +28 dB HEADPHONE LEVEL LEFT TIP RING FRONT HEADPHONE JACKS 1 RIGHT TIP RING REAR \* CONSULT MANUAL FOR MONO BALANCED SOURCES TO STAGES 2-6 +28 dB Application Information At first glance the HC 6 looks like any other headphone distribution amplifier. Indeed, it performs superbly all the basic functions of such an instrument. Two balanced Inputs provide a master stereo signal to six stereo headphone amplifiers, with individual stereo Level controls.

@@@@@@@@@@@@@@@@@@@@The HC 6 provides Output jacks on both the front and rear panels. @@@@@@@@@@@@@@By connecting the HC 6 directly to the mixer outputs and using headphones instead of amps and speakers, the entire band can perform at ear shattering levels, with no feedback, with amazingly cleaner, clearer sound. The HC 6 is a very cost-effective alternative to renting a practice studio for every rehearsal. And finally, everyone wants to know how much power the HC 6 puts out. The output power depends on the impedance of the headphones; but, how much power the HC 6 puts out is the wrong question. How loud will the HC 6 make my headphones is the right question. See the RaneNote "Understanding Headphone Power Requirements" for the answer. Data Sheet-3 HC 6 HEADPHONE CONSOLE Rear Panel Architectural Specifications The headphone console shall have six (6) stereo inputs and two (2) master inputs driving six (6) stereo amplifiers wired to six (6) outputs on the front panel, in parallel with six (6) outputs on the rear chassis. Sufficient output power shall be provided to drive most stereo headphones to levels of 120 dB SPL. Automatic switching shall be included such that driving any of the separate inputs disconnects that one channel from the main stereo driving bus internally, allowing separate program material to be processed through the driven channel.

Input level controls shall be provided on all inputs with a gain range from off to +28 dB. A stereo/mono switch shall be located on the front panel. The master inputs shall be active balanced/unbalanced designs terminated with 1/4" TRS (tip-ring-sleeve) connectors. @@@@The unit shall be powered from a U.L. Listed, C.S.A. @@This external supply shall be provided with each unit. The unit shall be a Rane Corporation Model HC 6.

References 1. D. Bohn, "Understanding Headphone Power Requirements," RaneNote, (1983). ©Rane Corporation 10802 47th Ave. W. Mukilteo WA 98275-5098 TEL (425)355-6000 FAX (425)347-7757 WEB <http://www.rane.com> Data Sheet-4 All features & specifications subject to change



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