

# GENZ·BENZ

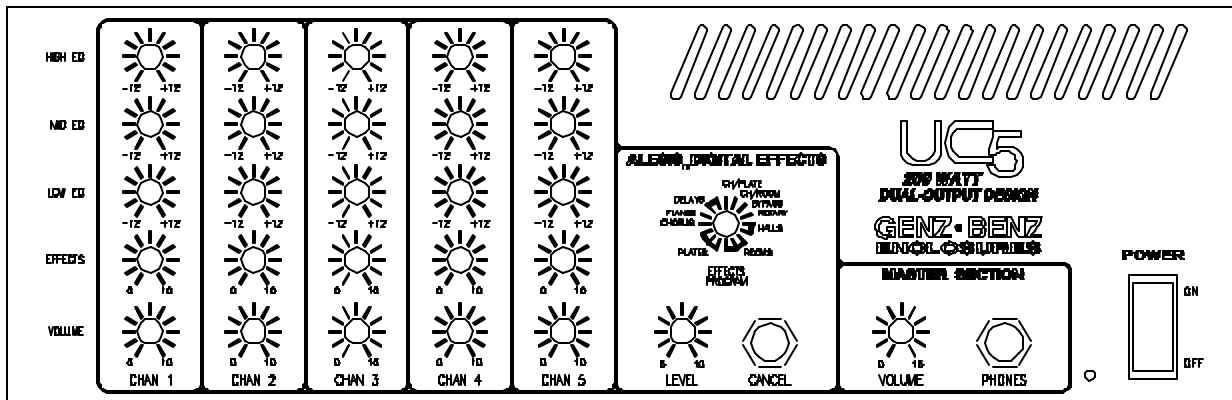
ENCLOSURES

# UC5-HEAD

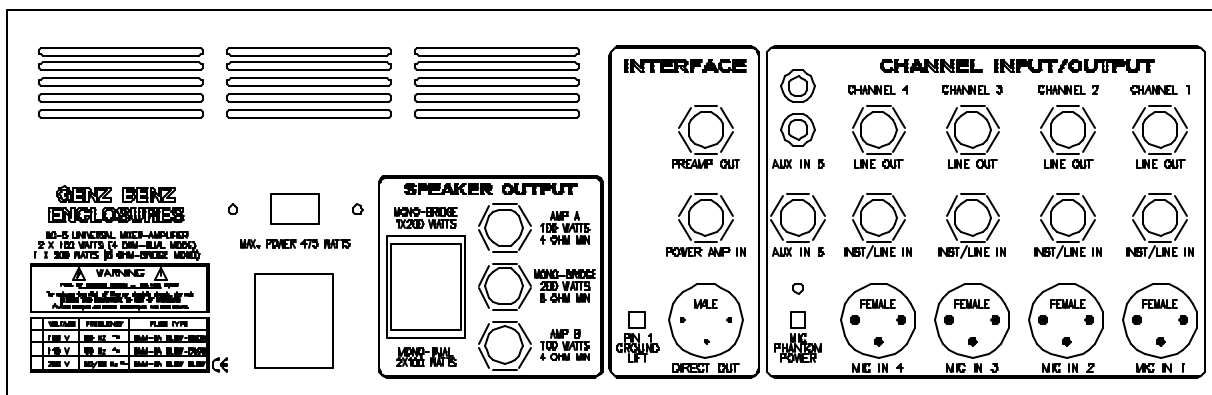
# UC5-112T

## UNIVERSAL COMBO

# OWNER'S MANUAL



(FRONT PANEL)



(REAR PANEL)

**PRODUCT DESCRIPTION** – The **UC-5** is a 5 channel – 200 watt universal mixer-amplifier. Channels 1-4 are equipped with both a ¼” TRS balanced instrument input and a separate XLR balanced microphone input (with globally switched phantom power). Channel 5 is equipped with a pair of line level unbalanced RCA phono jacks and a ¼” unbalanced line input. Each channel then passes through an independent 3 band equalizer, volume control and each channel is also equipped with an individual send control to the on-board Alesis™ 15 program digital effects circuit with ¼” cancel jack. The channel signals are then summed together, mixed with the digital effects master return control and passed on to the internal 200 watt power amplifier. The back panel contains a direct balanced output with ground lift switch, a preamp out/power amp in insert loop, and three 1/4” speaker jacks. The fully protected power amplifier operates in dual and mono bridge mode allowing additional flexibility. Combo and rack mount configurations are available.

**INPUTS (CHANNELS 1-4)** – Channels 1-4 on the UC-5 are equipped with 2 types of input jacks. The ¼” TRS input is balanced and “instrument level” with a useable sensitivity from approximately –50dBv to –10dBv. The input impedance is 100k ohms. The ¼” input will also accept unbalanced sources, by recognizing the tip portion of the signal and referencing the ring to ground. Even though the high sensitivity of the ¼” input is designed for instrument levels, higher signal levels can be used without input overload, although you will be operating at the lower end of the volume control range. Additionally, the precision input scaling preamp contains a 15 Hz high pass filter and an “RFI” filter (radio frequency interference) to eliminate unwanted noise. The XLR input jack is balanced and “microphone level”, with a useable sensitivity from –60dBv to –20 dBv. It contains a precision full range differential microphone preamp with phantom power that is switchable globally from the back panel. For use with higher level sources (such as the balanced line level output from a keyboard), either reduce the volume from the source or insert a balanced pad network between the source and the UC-5 input. Phantom power is 13.6 volts, compatible with virtually all commonly used condenser microphones. Externally biased condenser microphones (less than 1% of all condensers sold in the U.S.) typically require higher phantom voltages and will not operate properly with any mixers providing 13.6 volts. Dynamic microphones can be used with no ill effect. Plugging into the ¼” input will disconnect the XLR input from the circuit. Each channel is also equipped with a ¼” unbalanced direct output, useable for direct recording or as a pre-eq individual channel signal source for use with individual direct boxes in a live PA situation.

**INPUTS (CHANNEL 5)** – Channel 5 on the UC-5 is equipped with 2 types of input jacks. The RCA phono jacks are paralleled internally, eliminating the need for a “Y” cable when using a stereo source. Also provided is a ¼” unbalanced line level input, paralleled with the RCA phono inputs. Input sensitivity is from –20dBv to +4dBv, allowing use of true line level sources such as CD players without the risk of overdriving the input. All inputs are active at all times.

**ON-BOARD ALESIS™ DIGITAL EFFECTS** – The UC-5 contains a genuine **Alesis™** 15 program digital effects processor. Unlike other amplifier manufacturer’s built-in digital effect units, we chose to use an industry leader in processing with an undisputed reputation for realistic, high quality effects algorithms. Not all of the different effects will be suitable for all types of instruments or playing styles, but everyone should find a good selection of solid, useable programs. Just keep in mind that a program that doesn’t work well for your quick acoustic guitar or mandolin work (long lush reverbs for example) may be the perfect program for sax or flute. Level differences are normal when switching between different effects, adjust the send and master levels accordingly. The effects level control on each channel adjusts the send level to the digital effects processor. The digital effects level in the master section controls the effects return level from the processor. A ¼” effects cancel jack is provided on the back panel to mute the internal effects via footswitch. Any standard single button latching footswitch (with shielded cable) may be used. Signal is muted when the switch is closed. The effect program labeled “bypass” is reserved for use on amplifier modes with programmable preset switching and does not produce an effect on the UC-5.

**3 BAND ACTIVE EQUALIZATION** – Each channel of the UC-5 contains a separate 3 band active equalizer. These equalizers, similar to those found on professional sound consoles, are very useful tools when used correctly. The corner frequency of the **low frequency** section is 125 Hz, shelving curve. This frequency is particularly handy when dealing with low frequency feedback from a big dreadnaught guitar or boomy voice. A combination of volume reduction and turning down the low frequency control will generally get good results. Become familiar with the action of the controls since their effective gain range is quite large. The low frequency control is also handy for adding some “bottom” to a baritone sax and “chunk” to a mandolin, mando-cello or electric-acoustic guitar. The corner frequency of the **high frequency** section is 8 kHz, shelving curve. This frequency is especially useful for taming the bright harshness of some mandolins, violins, brass and reeds. It can also be used to help acoustic guitars, cellos and flutes cut through other players in loud club situations. The **mid**

**frequency** section features 12 dB of cut or boost with a bandwidth approximately 1 octave wide. The center frequency of this filter is approximately 1kHz, peaking curve. This filter is typically (but not always) used to reduce or remove offending frequencies in an instrument's pick-up response, or the nasal sound in a vocal. Removing only the minimum amount necessary will yield the most acoustically rewarding results. Occasionally, you will find need to use the mid section in "boost" mode, particularly common when adding higher mids (bite) to an otherwise dull instrument, or adding low mid "body" to an otherwise thin sound. Spend some time experimenting so that the process becomes creative as well as corrective.

**MASTER VOLUME** – The master volume control adjusts the overall volume of the mix of channels 1-5 and the Alesis™ digital effects return. Typically, best results are obtained when this control is operated between the 9:00 and 3:00 positions.

**DIRECT OUTPUT** – The UC-5 contains a "post effects" and "post master volume" XLR balanced direct output. This output is completely phantom power and short circuit protected. The ground lift switch allows disconnection of the pin 1 ground from the UC-5 to eliminate ground loop hum. This output will not be active unless the master volume is turned up. The XLR balanced output is "hot" mic level, rated at –30 dBv. This configuration allows the UC-5 to drive very long cable lengths (250+ feet) without problems or added noise.

**PREAMP OUT/POWER AMP IN** - A signal patch point is provided between the master output preamp and the input to the power amp section. This signal point is unbalanced and operates at +4dBv. It is a convenient insert point for graphic or parametric equalizers and signal compressor/limiters.

**POWER AMPLIFIER** – The UC-5 features our DUAL OUTPUT DESIGN which contains 2 separate advanced monolithic power amplifier circuits that are fully protected against overloads, short circuits and thermal faults. Output is rated at 100 watts per channel into 4 ohms (dual mode), and 200 watts into 8 ohms (bridged mono mode) with excellent overload recovery characteristics. A unique feature of this amplifier is the "on silicon" temperature sensor that automatically tracks and adjusts the amplifier's operating and protection parameters, a very cool feature that increases product reliability 10-fold over conventional designs. With the Mode Switch in the dual position only the dual speaker jacks are active. With the Mode Switch in the bridged mono position only the bridged mono jack is active. Driving speaker loads below the amplifier's rated minimum load (4 ohms each channel in dual mode and 8 ohms in the mono bridged mode) will result in distortion and possibly intermittent operation as the protection circuits are activated. There is an internal cooling fan to keep heatsink temperatures at safe levels.

**HEADPHONE JACK** – The UC-5 is equipped with a headphone jack that will drive all known headphones to a reasonable level. Use caution when monitoring at high volumes as hearing damage may result.

**POWER INPUT** – The UC-5 is shipped from the factory with a standard IEC type power inlet connector and the appropriate power cable for the market the amplifier was shipped to. The power transformer is a high quality universal input toroidal type, (115/230 volt, 50/60 Hz) with a voltage selector switch located above the inlet connector. Be sure that this switch is in the correct position (matching your local power system) BEFORE connecting the UC5 to the power source. There is an AC mains fuse (with a spare fuse included!) located in the small slide out tray located on the IEC power inlet connector. Always replace with the correct value fuse as indicated on the fuse chart located on the back of the amplifier.

**UC5-112T SPEAKER CONFIRGURATION** – This model is shipped with our GBE 1241C 200 watt woofer and GBE 4941 compression tweeter which produces full range high output response. The impedance load is 8 ohms.

**CAUTION!**

- Never set an amplifier on anything that will tip over or collapse under its weight.
- These amplifiers are capable of producing sound pressure levels that may cause hearing loss.
- There are no user serviceable parts inside these units. Always consult a qualified repair facility for service.

**WARNING!**

- The use and operation of this device constitutes an agreement of full release of any and all liability connected with it's use. Only persons familiar with the operation of high powered audio equipment should attempt to operate this device.
- In addition, by use of this device, the user agrees to hold Genz Benz Enclosures, Inc. and it's designers, sales agents and all other affiliates and related parties harmless in the event of any accident, injury, damage or loss resulting from such use.

- Manufacturer's sole responsibility is to provide a warranty on the specified performance of the product under normal operating conditions for a period of 3 years.

**WARRANTY:**

- Genz Benz Enclosures, Inc. warrants the model UC5 to be free from defects in materials and workmanship for a period of 3 years from the date of purchase, when purchased from an authorized Genz Benz dealer.
- This warranty does not cover normal wear and tear incurred from the normally designed use of the product.
- This warranty is effective only if a copy of the original sales receipt is presented at the time of warranty service.
- This limited warranty is completely transferable to any subsequent buyer as long as the original sales receipt is also transferred to such subsequent buyer.
- All warranty service must be performed by a Genz Benz authorized service center.
- Before returning any unit for service, a returned merchandise authorization number (RMA#) must be obtained by calling 480-941-0705.

## ENGINEERING SPECIFICATIONS

**INPUTS 1-4**

XLR Balanced input impedance:	4.7 kohms
XLR Balanced input sensitivity:	-60 to -20 dBV
¼" Unbalanced input impedance:	100 kohms
¼" Unbalanced input sensitivity:	-50 to -10 dBV

**INPUT 5**

¼" unbalanced and RCA input impedance:	15 kohms
¼" unbalanced and RCA input sensitivity:	-30 to +4 dBV

**AMPLIFIER OUTPUT**

Power at 8 ohm load/channel (Dual mono mode)	60 watts RMS
Power at 4 ohm load/channel (Dual mono mode)	100 watts RMS
Power at 8 ohm load (Bridged mono mode)	200 watts RMS
THD + N (preamp):	<0.03%
THD + N (power amp):	<0.05%
Frequency response:	20 Hz – 20 kHz +/- 1dB

**CHANNEL EQUALIZATION**

Low frequency:	125 Hz shelving, +/-15dB
Mid frequency (sweep):	1kHz , peaking, +/-12dB
High frequency:	8 kHz shelving, +/-15dB

**DIRECT OUTPUTS**

XLR balanced output level:	-20 dBV nominal
XLR balanced output impedance:	150 ohms

**PRE OUT/PWR IN**

¼" unbalanced output level:	+4 dBv nominal
¼" unbalanced output impedance:	1 kohm
¼" unbalanced input level:	+4 dBv nominal
¼" unbalanced input impedance:	10 kohm

**DIGITAL EFFECTS**

Processor type:	Alesis™ DSP engine
Internal processing:	24 bit
A/D converter:	24 bit – 64X oversampling
D/A converter:	24 bit – 128X oversampling
Dynamic Range:	80 dB
THD + N (1 kHz):	<0.01%
¼" effects cancel jack:	short T-S cancels return

**INTERNAL PRESET EFFECTS PROGRAMS:**

- 3 – plate reverbs
- 3 – room reverbs
- 2 – hall reverbs
- 1 – rotary effect
- 1 – chorus

1 – flange  
2 – delays  
2 – chorus w/ room reverb  
1 – bypass

\*Due to continuing product improvements and changes, all specifications are subject to change without notice.

**GENZ·BENZ**  
E N C L O S U R E S

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