ALESIS

MICROVERB

Instruction Manual

INTRODUCTION:

Before unpacking your new Digital Reverb. take a moment to look through this instruction manual. We've made it brief and informative. Some helpful setup thoughts are included along with some application hints.

The MICROVERB represents a clear breakthrough in signal processing technology. Utilizing the Alesis R.I.S.C. (Reduced Instruction Set Computer) architecture, the MICROVERB provides clean, quiet, professional digital reverberation with the cost and simplicity of spring units. The entire digital processing system is contained on a single chip, developed by Alesis Research Department, specifically for the MICROVERB. Using high speed complementary-metal-oxide-semiconductor (CMOS) silicon processing, the MICROVERB chip replaces several circuit cards of components, while consuming very little power.

The reverb programs were developed on our interactive room simulation and development system. Philosophically, the objective of reverberation is to enhance a dramatic performance, adding space, power, depth. Natural spaces tend to sound more pleasing than the simulated reverb types such as springs and plates, and for this reason, we use room terminology in describing our programs. The programs cover a wide range of sizes and qualities, and include such unnatural concepts as gated and reverse types.

INSTALLATION:

Guitars, Keyboards:

The MICROVERB has high impedance inputs ideally suited for use with instrument pickups. Further, if the left input only is used, the input signal will appear as mono (present in both channels) at the dry side of the mix control. Adjust the input level for the level indicator flashing to red on occasional transients. A green condition of the indicator shows that the signal is sufficient for good signal to noise ratios.

Mixing Consoles:

The MICROVERB handles mono or stereo sends at all system levels. The input circuitry of the MICROVERB can easily handle +4 levels (+20 dB peaks), while having enough input gain to interface with the extremely low signal levels of budget recording systems. As with instruments, if the left input alone is used with a mono source, it will appear in both channels of the dry output, leaving the reverb output in full stereo. In professional applications, it is suggested that the output control be set at maximum, where the MICROVERB will best drive maximum levels at low impedances. When using with the sends and receives of a console, the mix control should be set to full reverb.

Mounting:

The MICROVERB, as a part of the Alesis Micro Series, is mountable in the Micro-Rack Adapter, where three such devices fit perfectly. Assembly is quick and simple, a single screw secures each device in place. The unique design of the Micro Series case allows the devices to lock together to form a solid rack package, or to stand alone as single units.

Power:

The MICROVERB is powered by a remote supply providing 9 volts AC through a 3.5 mm plug. This power supply approach keeps stray magnetic fields from interfering with low level signals, allows easy conversion to alternate power sources (220V), and further reduces the unit's physical size and valuable panel space. Although many Micro Series devices could be powered by a single supply, this is not advisable, as ground loops would be set up between units, leading to excessive hum and noise in the system.

PROGRAMS:

The programs available in the MICROVERB were selected to offer a complete range of contemporary reverb types, spanning the entire range of music production. Divided into large, small and special effect types, the programs are all very different and specific, but likewise very useful for certain specific music types. (Generalizations about applications, with specific examples, can be found in the section on applications.)

Small Programs:

Small reverberant spaces have shorter decay times and are characterized by their smooth, exponential decay. An impulse begins decaying immediately, without excessive initial sound. Plates and chambers have this basic quality. Especially suitable for general purpose percussion, the small programs add little character to the original program material, but obviously do not convey a feeling of open spaciousness. At longer decay times, the small programs may seem restrictive and tonal for such smooth material as instruments and vocals. The programs are organized in order of increasing decay time from 1 to 6.

Large Programs:

Large reverberant spaces return initial echoes for a period of time from the onset of an impulse, where the period is a function of the room size. This initial period is uneven before the smooth exponential decay begins. The large programs of the MICROVERB are similar to halls. Such a reverb sound has more character than the more bland small room sound and lends a beautiful, open spaciousness to vocals and instruments. The large programs are not intended to be perfectly smooth, and should be used with caution on percussive material. For large percussion sounds, the gated programs should be tried. The large programs are organized by size and decay time numbered from 1 to 7.

Gated and Reverse:

The reverse program is offered as a special effect where drums, instruments, and even vocals can be usable program material, given appropriate mixing levels. For a full backward effect, the dry signal should be eliminated completely from the mix.

Gate 1 and Gate 2 differ in the duration of the sound and the rate of decay of the tail of the gated sound. Especially popular with snare drums, the effect can be varied considerably with the mix control.

FCC NOTICE:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- –Reorient the receiving antenna.
- –Relocate the product with respect to the receiver
  Move the product away from the receiver
- –Plug the product into a different outlet so that product and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: *"How to Identify and Resolve Radio-TV Interference Problems."*

This booklet is available from the: U.S. Government Printing Office
Washington, D.C. 20402
(Stock Number 004-000-00345-4)

SPECIFICATIONS:

FREQUENCY RESPONSE	20KHZ (DRY), 10KHZ (REVERB) = 2dB, ± 1KHZ
DYNAMIC RANGE	90 dB
DISTORTION	.1% (TYPICAL)
SIGNAL LEVELS	INPUT: 10 TO + 20 dBV PEAK OUTPUT: + 8.5 dBV PEAK (REVERB) OUTPUT: I 20 dBV PEAK (DRY)
INPUT IMPEDANCE	1 MEG OHM EACH CHANNEL 500 K OHM, MONO INPUT
CONVERSION SCHEME	16 BIT LINEAR PCM
PROCESSING MEMORY	32 KILOBYTES
PROCESSOR SPEED	3 MILLION OPER./SEC.
FORMAT	INPUT: MATRIXED STEREO OUTPUT: FULL IMAGED STEREO
DEFEAT	EXTERNAL, SPST SWITCH (NOT SUPPLIED)
LEVEL INDICATION	ORANGE: POWER INDICATION GREEN: SIGNAL PRESENT RED: OVERLOAD
CONTROLS	INPUT GAIN MIX RATIO OUTPUT LEVEL PROGRAM
PROGRAMS	16
CONNECTIONS	STEREO INPUTS: ¼" PHONE STEREO OUTPUTS: ¼" PHONE DEFEAT: ¼" PHONE POWER: 3.5mm PHONE
POWER	9V AC, 5 VOLT-AMPERES

LIMITED WARRANTY:

ALESIS warrants this product to be free of defects in material and workmanship under normal use for a period of 90 days. The term of this warranty begins on the date of sale to the purchaser. Units returned for warranty repair to ALESIS or an authorized ALESIS warranty repair station will be repaired or replaced at manufacturer's option, free of charge. This warranty is void if factory determines defect to be the result of abuse, neglect, alteration or attempted repair by unauthorized personnel. ALESIS assumes no responsibility for loss or damage, direct or consequential, that may result from this product failing to perform at any time. All units returned to ALESIS or an authorized ALESIS repair facility must be prepaid, insured, and properly packaged. ALESIS reserves the right to update any unit returned for repair. ALESIS reserves the right to change or improve design at any time without prior notice.

APPLICATIONS:

MICROVERB is a revolution in the development of digital reverb in that it represents a phenomenal price/performance ratio, while reducing the physical size from large, bulky hardware to what you can now hold in the palm of your hand. The 16 programs in MICROVERB are the distillation of years of exhaustive research by Alesis into the phenomenon of sound as it occurs naturally in space. From small, intimate room settings to large unobstructed spaces, to useful gated and reverse reverb effects, MICROVERB offers a powerful level of sonic flexibility that will expand and polish the sound of any recording. Moreover, its rugged portability, simplicity and convenient input characteristics make it the logical choice for recreating studio quality sound in live performance.

How to use Microverb in your studio

The 16 programs in MICROVERB offer a wide range of ambient spaces. Its compact, affordable format means that even the smallest 4 track studio can own more than one MICROVERB. One of the greatest differences between home recordings and top flight record productions is in the quality and number of high performance reverb processors. Simply stated, the big studios have a lot of digital reverbs and smaller studios usually don't. MICROVERB changes all that.

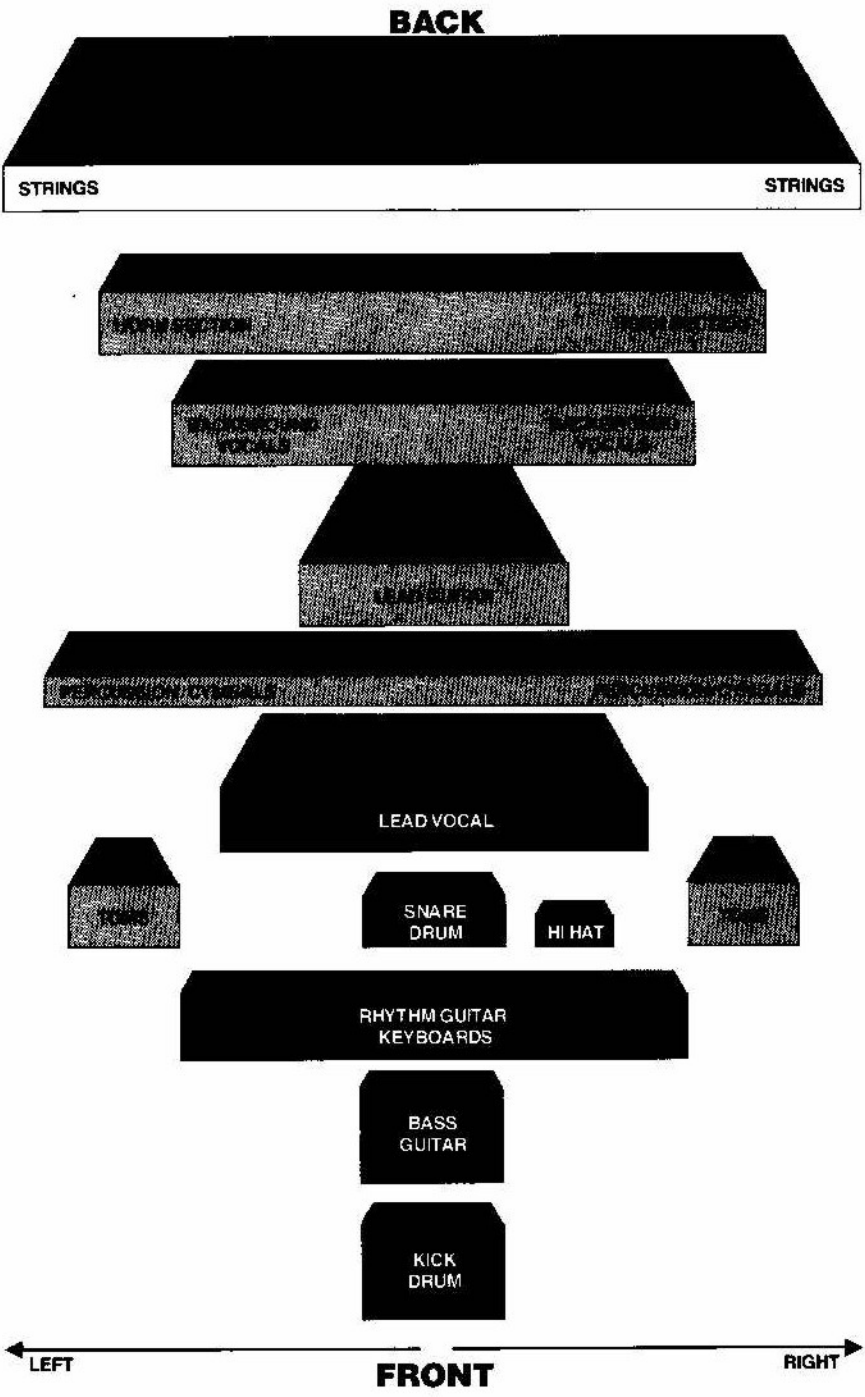
The illustration shows a typical reverb assignment for a no holds barred record production. While this setup may not represent the capabilities of your own recording efforts, it does illustrate why modern recordings sound so spacious and dramatic. The 16 bit processor in MICROVERB allows you to create this sense of space with crystalline clarity and great resolution.

These programs were chosen for the purpose of creating a 'sound stage' for the musical performance. There is a well defined sense of three dimensional space that is occupied by each instrument: left to right and front to back. The blocks in the illustration indicate the physical placement of each instrument, and the spreading of the sound due to the psychoacoustic imaging characteristics of each program. Notice that the small programs have more of a centered spatial image while the large programs are wider, more open and spacious.

Recommended programs are listed by number next to each instrument. These program suggestions are based on current popular uses of digital reverb, but use your imagination and please experiment. Musical style, personal taste and creativity are your guidelines. This mix uses 9 MICROVERB programs simultaneously. The affordability of MICROVERB easily brings at least a portion of this mix within the reach of *all* studios.

The mix control settings apply to either the mix control on MICROVERB for stand alone operation, or the settings can apply to the sends and receives of a mixing console. IMPORTANT! When used with the sends and receives of a mixing console the mix control on MICROVERB should *always* be set fully clockwise, and the returns on the console panned hard left and right for the full stereo effect.

		MIX CONTROL	
	PROGRAM	**% Dry**	**% Wet**
SNARE DRUM	GATE 1 or 2	50	50
LEAD VOCAL	SMALL 4	60	40
BACKGROUND VOCALS	SMALL 5	50	50
LEAD INSTRUMENTS (guitar, sax, synth, etc.)	SMALL 6	50	50
RHYTHM GUITAR AND KEYBOARDS	SMALL 1 or 2	50-0	50-100
HORN SECTION	LARGE 2 or 5	60-50	40-50
STRINGS	LARGE 6	50-0	50-100
PERCUSSION AND CYMBALS	LARGE 5 OR SMALL 5	60-70	40-30
TOMS	LARGE 3	50	50
KICK DRUM	LARGE 1	90	10
BASS GUITAR	SMALL 1	90	10
HI HAT	SMALL 1 or 2	80	20



Relative depth of the Soundstage (a function of wet/dry mix ratio and depth of reverb program).

BACK

MIDDLE

FRONT

The width of each block represents the left to right stereo imaging. The front to back dimension of each block represents the relative sense of depth created by each MICROVERB program. The height of each block roughly indicates the frequency response of each instrument group. The shading (dark, medium and light) indicates each instrument's front to back placement in the mix, which is dependent on the wet/dry ratio of the mix control or reverb returns.