EGC-2500

DIRECT PLUG-IN REPLACEMENT VCA FOR MCI 500 SERIES CONSOLES

The factory standard VCA configuration, in these consoles, presents significant limitations to the equipment's ability to achieve low distortion and noise performance. The degradation is sufficient to the degree of causing many engineers to bypass the VCA's, thereby depriving themselves of the ability to utilize the console's valuable automation and grouping capability.

The relatively high noise level, when using the VCA's, also forces the user to elevate the audio levels, in order to achieve useable signal-to-noise ratios. Since the console has a modest full power bandwidth (around 25 kHz), the presence of high signal levels encourages slew distortion and T.I.M. Additionally, the VCA's themselves produce objectionable amounts of odd order harmonic distortion and I.M.D. (to .7%). Odd order harmonics are more objectionable than even order distortion, as they are perceived as causing a dull, covered sound, as opposed to the bright cutting sound of even harmonics.

Finally, the factory VCA's exhibit a severe long term drift in their distortion characteristics, even under low signal conditions. This drift is caused by thermal changes, and by power supply variations, and makes effective "distortion nulling" an uncertain, and temporary proposition.

THE ALLISON EGC SERIES

The engineering staff at Allison Research has been very active in the design of VCA devices for over 10 years. Until the introduction of the EGC-101 gain cell, all known methods of configuring VCA's have been subject to performance trade-offs and an inability to match the signal quality of conventional fixed-gain electronics.

In 1979, Allison achieved the realization of a simple, cost effective VCA device which offers a level of performance equal to, or better than, the finest examples of conventional amplifiers. This device, the EGC-101, has revolutionized the VCA art, and has instantly become the new choice for virtually all past and future users of VCA's.

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(615) 385-1760 or (615) "ALLISON"

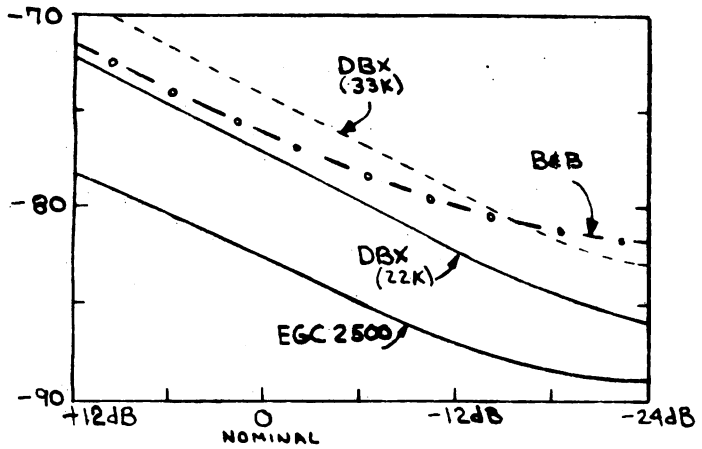
The inclusion of the Allison EGC-2500 (which uses the EGC-101 as its heart) will enable MCI owners to upgrade their equipment dramatically, in terms of both noise and distortion, while allowing the full flexibility of the console to be utilized.

Installation is exceedingly simple, involving only unplugging the existing VCA block, and inserting the EGC-2500 in its place. No adjustments are needed, as the EGC-2500 exhibits good immunity to temperature and power supply drifts, and comes factory trimmed.

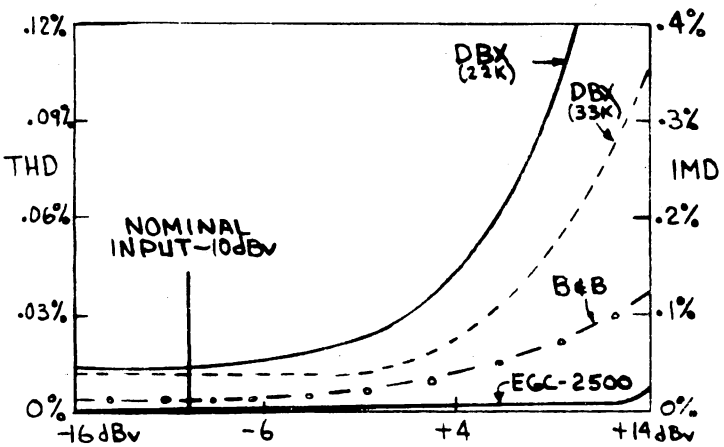
For the sake of comparison, the performance of the EGC-2500, the factory installed MCI/dbx VCA, and the B&B Audio VCA 500A (another available MCI retrofit) are shown on the accompanying graphs. It is important to note that these graphs illustrate the actual performance of the above mentioned VCA's, when installed in a MCI 500 series console.

It should be noted, in referring to the graphs, that MCI has shipped factory installed dbx VCA's with one of two values of VCA input/output resistors, either 33K (as indicated on their schematics) or 22K (in their later consoles). The 33K VCA's exhibit higher noise and lower distortion, while the 22K VCA's produce lower noise and higher distortion. (see graphs)

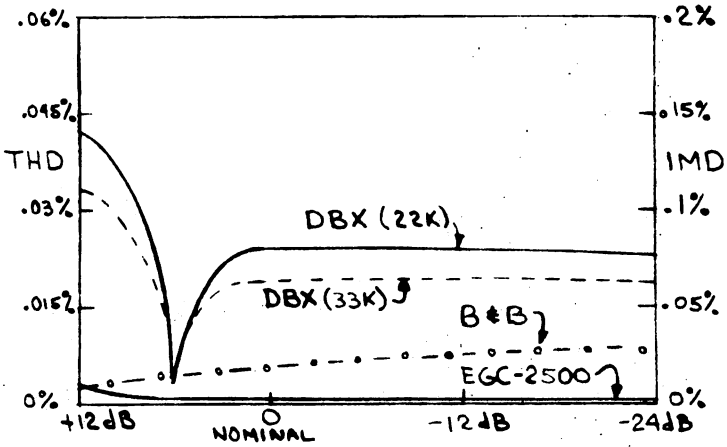
Which value of VCA input/output resistors are in your console will be of no concern to you, in retrofitting the EGC-2500, as these resistors are contained on the plug-in factory VCA module, which you will be removing.



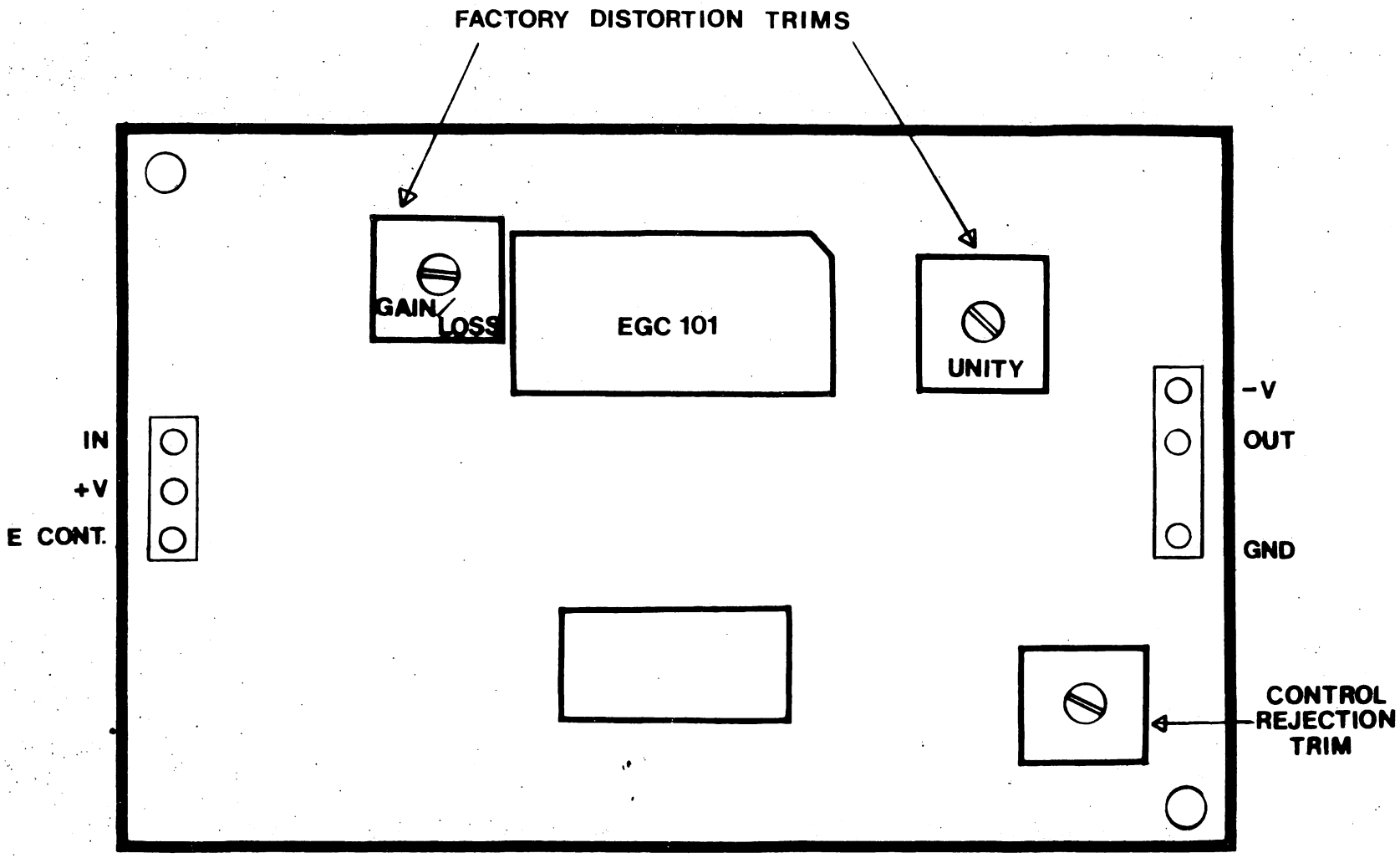
OUTPUT NOISE V.S. FADER SETTING
(dBv re .775V 20Hz - 20 KHz)



THD & IMD V.S. INPUT LEVEL
@ -20dB FADER SETTING



THD & IMD V.S. FADER POSITION
(0dBv INPUT)


FACTORY DISTORTION TRIMS
GAIN
LOSS
EGC 101
UNITY
IN
+V
E CONT.
-V
OUT
GND
CONTROL
REJECTION
TRIM

EGC - 2500