MC-6 Analog Monitor Controller

Rough Draft 19-09-17

The MC-6 Monitor Controller features 3 balanced stereo inputs and 3 balanced stereo outputs using XLR-3 connectors on its rear panel. Any of the inputs and/or outputs can be connected to unbalanced equipment by using XLR to RCA or TRS connectors.

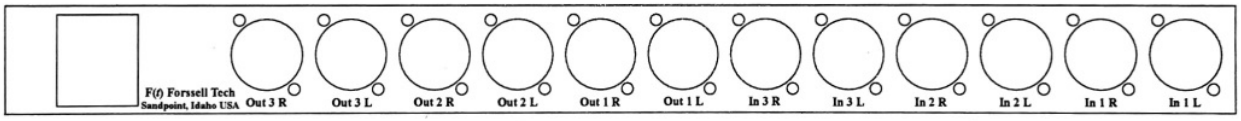
Inputs and outputs are selected using momentary push switches on the front panel. Each switch has an LED indicator to show which is active. In addition, there are switches for output Mute, Mono, and Headphone (HP) Mute, if the MC-6 was purchase with the headphone amp option.

The MC-6 uses either a 24 position switched resistor level control (optional), or an extremely high quality TKD conductive plastic level control for setting levels on the main outputs. If present, the headphone amp has its own TKD level control and mute switch. The headphone output feed is taken before the main output level control and before the output mute switch.

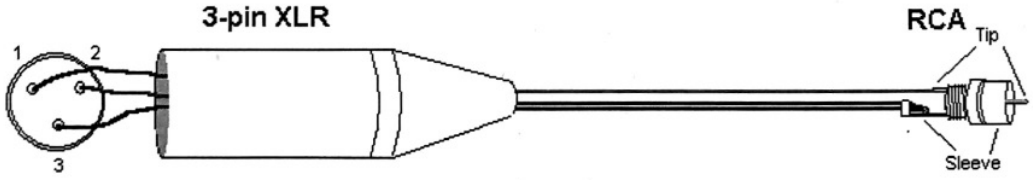
The inputs to the MC-6 are actively balanced using discrete JFET operational amplifiers. The input impedance of the MC-6 is 20k ohm balanced. Unbalanced input sources can be connected to the MC-6 inputs using pin #2 (Signal +) and #3 (Ground) and an appropriate adapter cable.

The outputs are balanced, floating, amplifiers so that the output "looks" like a transformer output with signal present between pin #2 and #3. The output amplifiers are either IC or discrete JFET (optional) operational amplifiers. Unbalanced loads should have their signals connected to pin #2 (+) and pin #3 (ground) of the XLR connectors. Pin #1 should be connected to pin #3 inside the XLR connector, or at the RCA or Phone plug end of the adapter cable.

Below is a view of the rear panel with connector graphic.



XLR to RCA cable wiring (Note... Pin #1 can also be connected to #3 inside XLR connector and not connected at the RCA)



Specifications:

Input Impedance:	20k Balanced
Output Impedance:	50 ohm
Max Gain:	+4 dB
Max input level:	+20 dBu
Max output level:	+24 dBu
Noise floor:	-104 dBu 22 – 22kHz unweighted
Frequency Resp:	2 Hz to 200 kHz +0, -0.5 dB (measured at -6 dB level setting)
THD+N:	less than 0.001%
Power consumption:	13 watts
AC power:	115/230 VAC 50/60 Hz (switch selected inside unit)
Fuse rating:	250ma (115v) or 125 ma (230V) TD 5x20mm
Shipping weight:	11.5 pounds (5.21 kg)
Dimensions:	19" x 12" x 1.75" (1RU) 48.26cm x 30cm x 4.44cm

Contact information:

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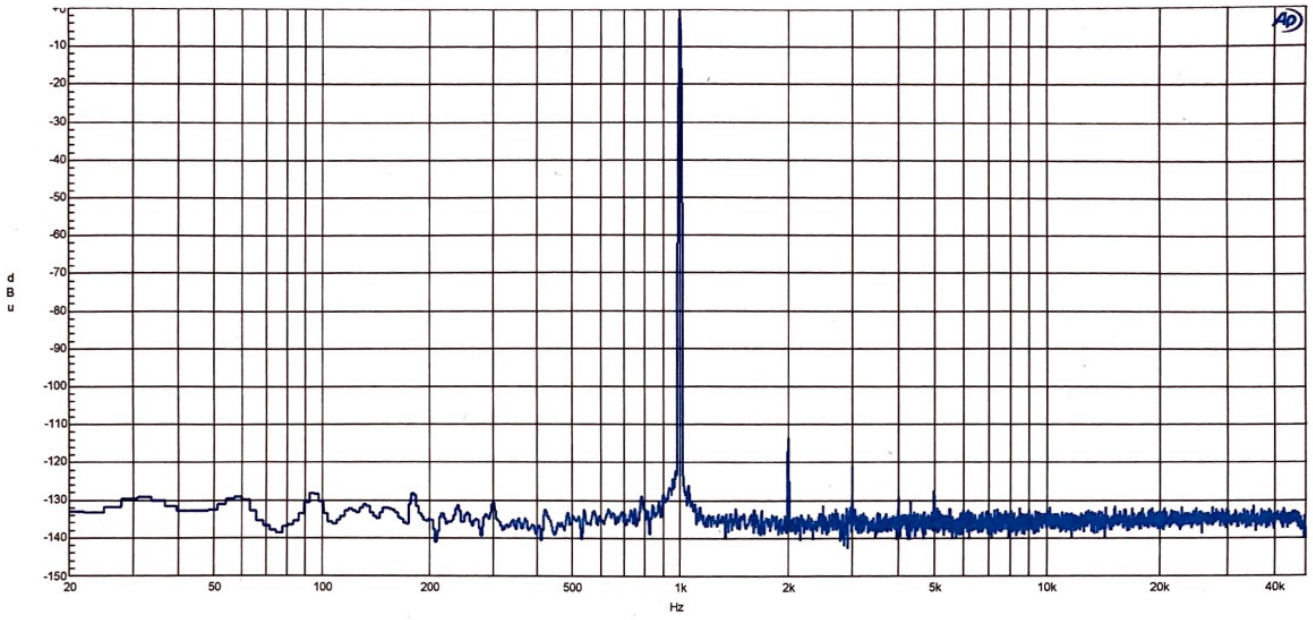
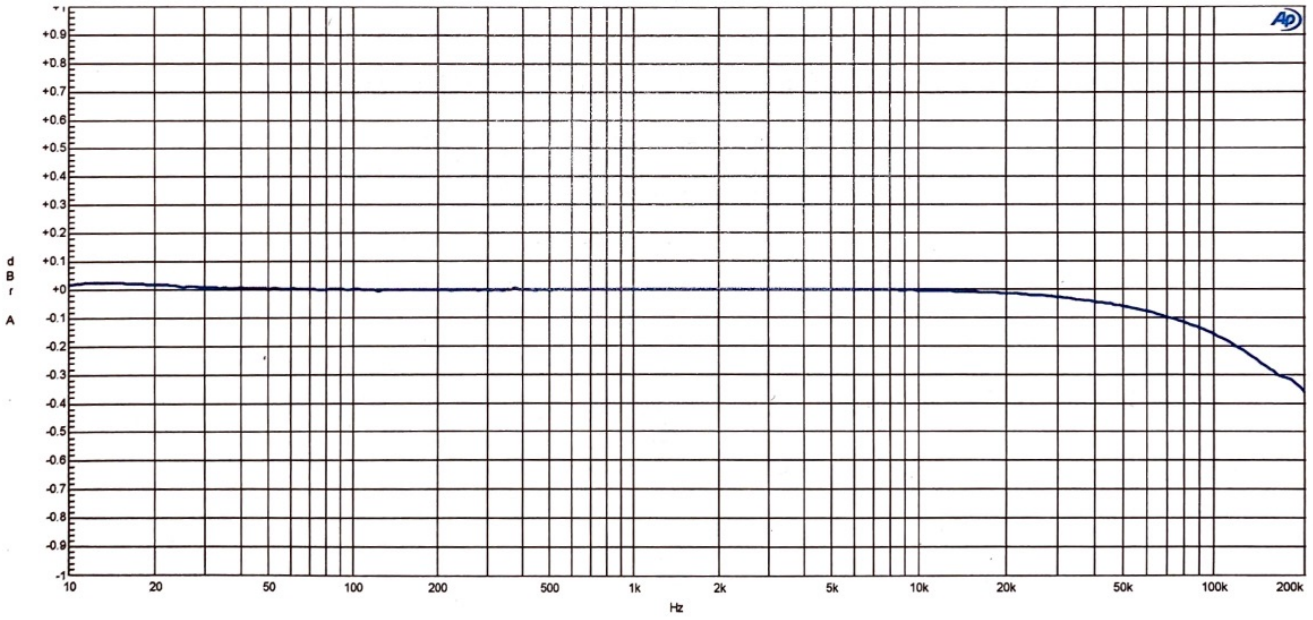
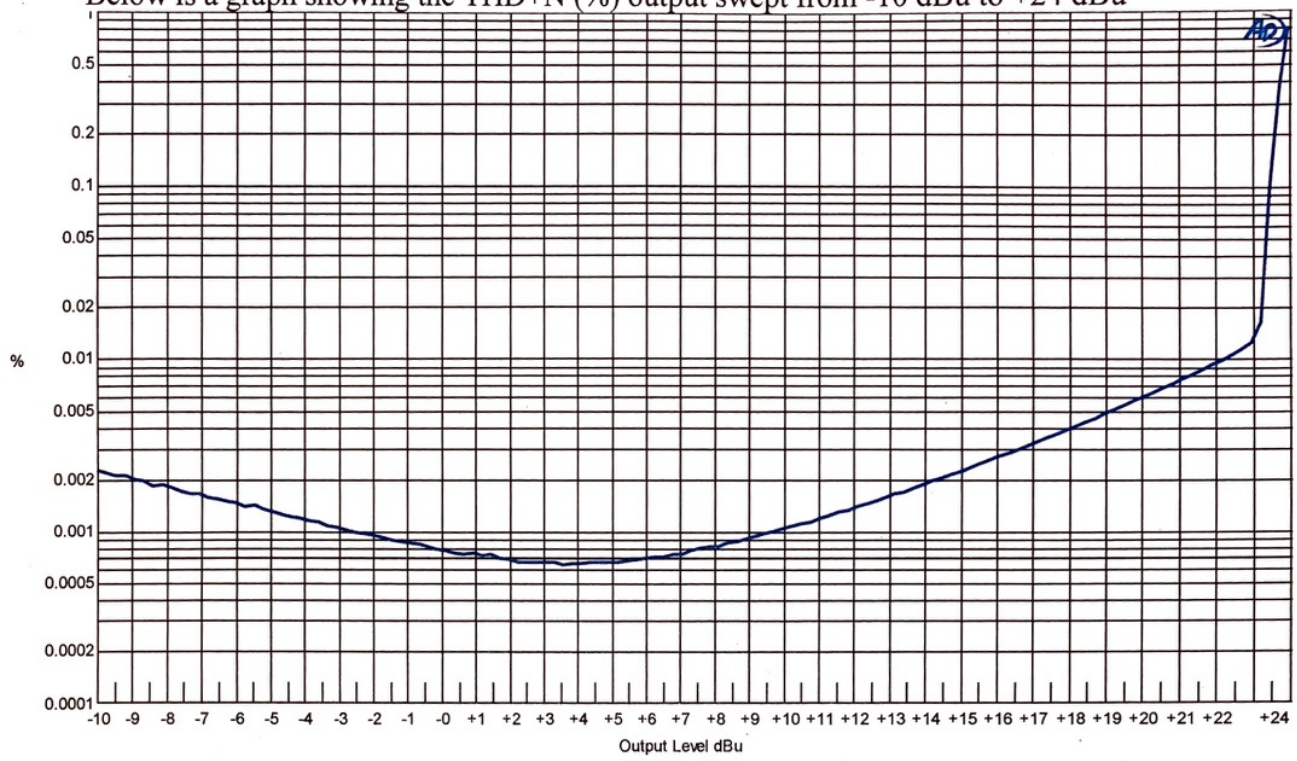
Below is an FFT (Log) with 0 dBu (0.7735 Vrns) output level



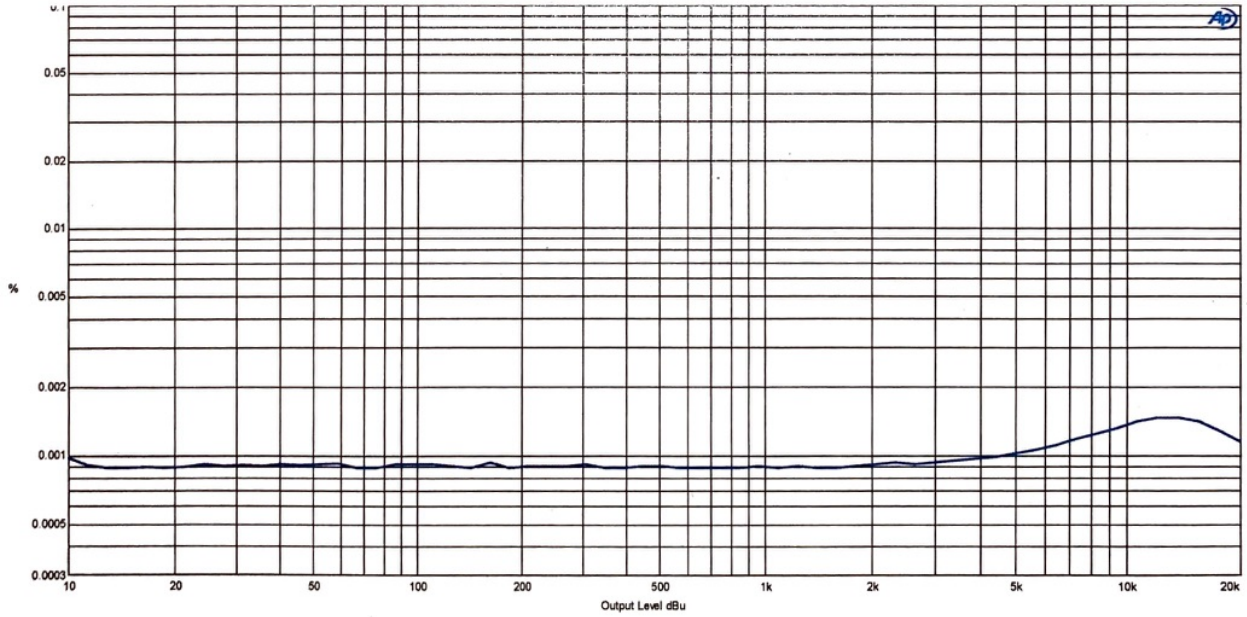
The graph below shows the Frequency Response (0.1 dB per division)



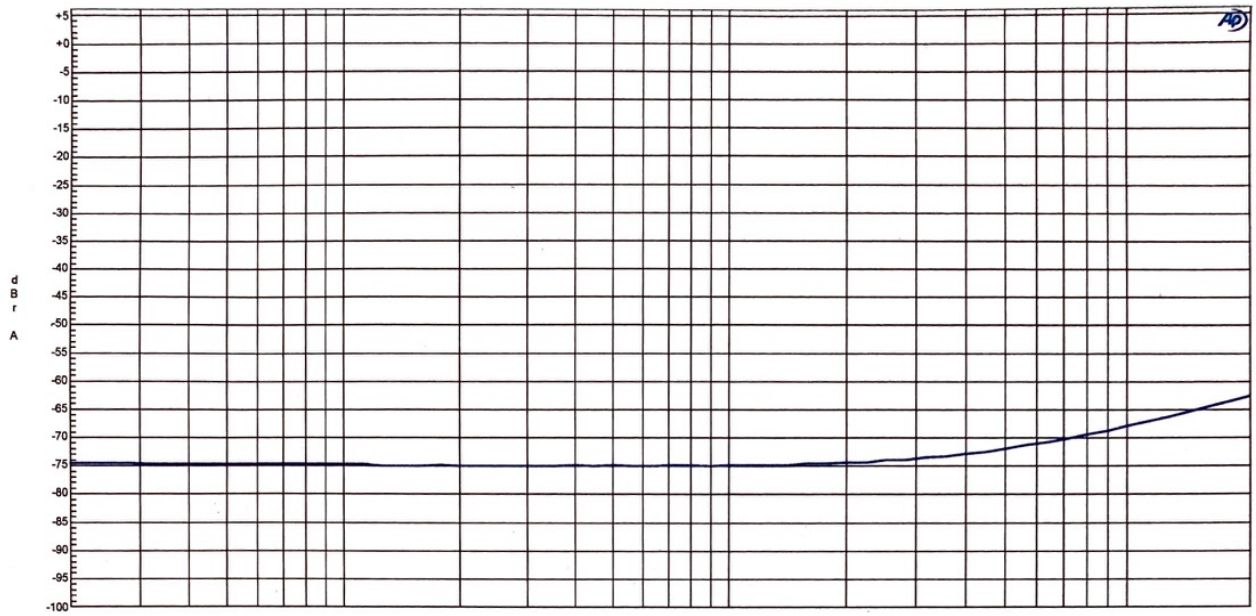
Below is a graph showing the THD+N (%) output swept from -10 dBu to +24 dBu



Below is a graph showing THD+N (%) vs Frequency with 0 dBu output level



The graphic below shows CMRR vs Frequency



Graph below shows Crosstalk vs Frequency for both channels with a 0 dBu output level

