iBiS

OPERATOR'S MANUAL

Version (-0.8)
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CRANE SONG LTD.

THE BASICS

The IBIS equalizer can do some very different things.

First, each band has 24 frequencies.   12 switch positions and a "+ one step button" this button moves the frequencies up one whole musical step. The high and low bands also can be shelving by pushing the shelving button.

The frequency chart showes how each of the bands over lap and how frequencies and musical notes relate. As an example, with the +1 step button pushed in, the frequency moves up two positions on the chart.   32.7 Hz which is the lowest frequency will become 36.7 Hz

There is a dead zone of about plus and minus .3 db on the "boost / cut" controls where the EQ is flat in response. This allows an easy way to set your bands flat.   The range is plus or minus 12 db and is not stepped. The mastering version has a range of 6 db in .5 db steps with a 1 db step between 5 and 6.

The Bandwidth is not stepped on the standard version and is steped on the mastering version. the range is from 0.2 Oct to 4 Oct this is at 12 db of boost

The low cut is 12 db per octave, but the steep button increases the slope to 24 db per octave.

The filters are of a special type that provide a very clean and smooth sound. To add flexibility to the equalizer a color knob is inculuded.

The color knob is an additive second / third harmonic distortion type of process, it can be applied to the full program or any one of the 4 bands. When doing a "cut" it will subtract the harmonic content.   The Color Knob is not stepped on the standard version and is stepped on the mastering version

The use of the color function will allow you to change the equalizer from a very transparent sound to a colored sound.   Using it on the low frequencies, band 1, it will add warmth. On band 3 it will add presence and some nice upper midrange detail. On the high frequency band it will add air.

IBIS FREQUENCY CHART

C	C#	D	D#	E	F	F#	G	G#	A	A#	B
32.7	34.6	36.7	38.9	41.2	43.7	46.2	49	51.9	55	58.3	61.7
65.4	69.3	73.4	77.8	82.4	87.3	92.5	98	104	110	116.6	123.5
131	139	147	155.6	165	175	185	196	208	220	233	247
262	277	294	311	330	349	370	392	415	440	466	494
523	554	587	622	659	698	740	784	830	880	932	988
1047	1109	1175	1245	1319	1397	1480	1568	1661	1760	1865	1976
2093	2218	2349	2489	2637	2794	2960	3136	3322	3520	3729	3951
4186	4435	4699	4978	5274	5588	5920	6272	6645	7040	7459	7902
8372	8869	9397	9956	10548	11175	11839	12544	13289	14080	14917	15804
16744	17740	18794	19912	21096							

Band 1 + 1 step lowest frequency is 36.7 Hz
Band 2 + 1 step lowest frequency is 155 Hz
Band 3 + 1 step lowest frequency is 523 Hz
Band 4 + 1 step lowest frequency is 1760 Hz

BAND 1 EQ CURVES

This graph showes band 1 the low frequency band, The peaking curve is at a bandwidth 1.5 octaves and is for reference. The shelving curves are with the shelf button pushed in. Only one frequency is showen for clarity
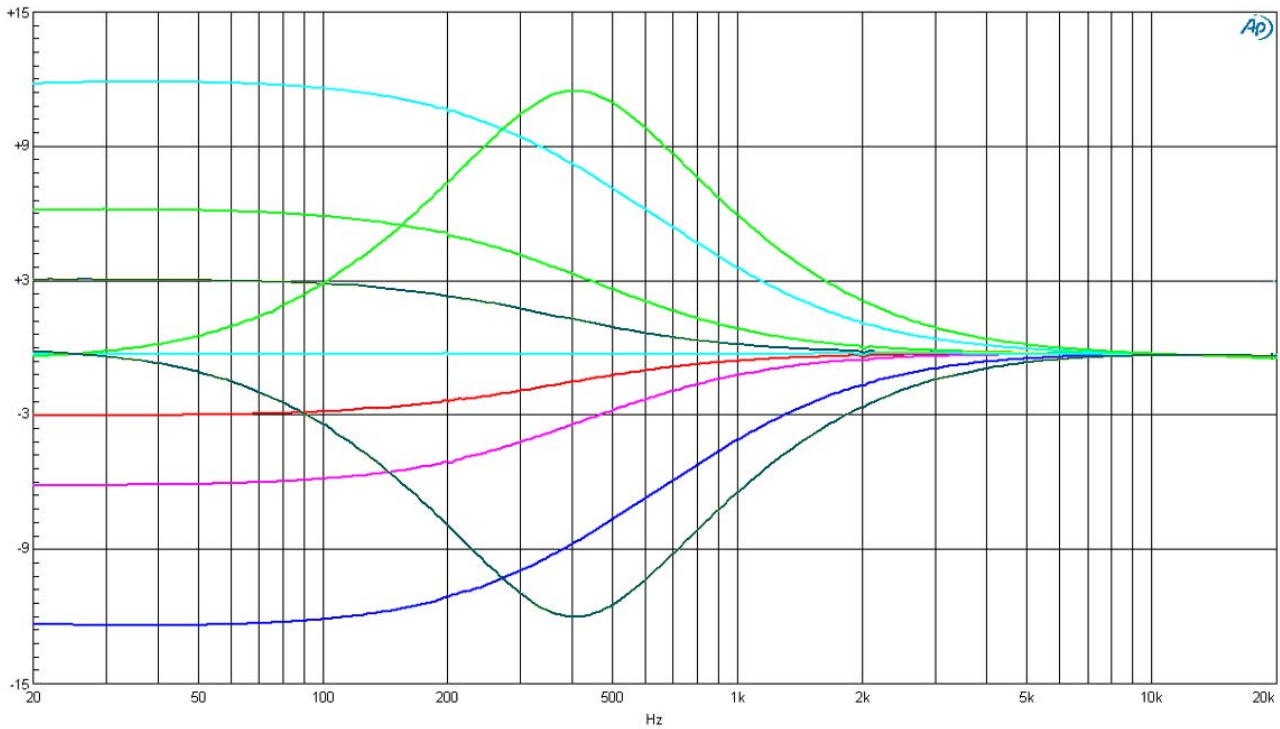
BAND 4 EQ CURVES

This graph showes band 4 the high frequency band, The peaking curve is at a bandwidth 1.5 octaves for reference. The shelving curves are with the shelf button pushed in. Only one frequency is showen for clarity
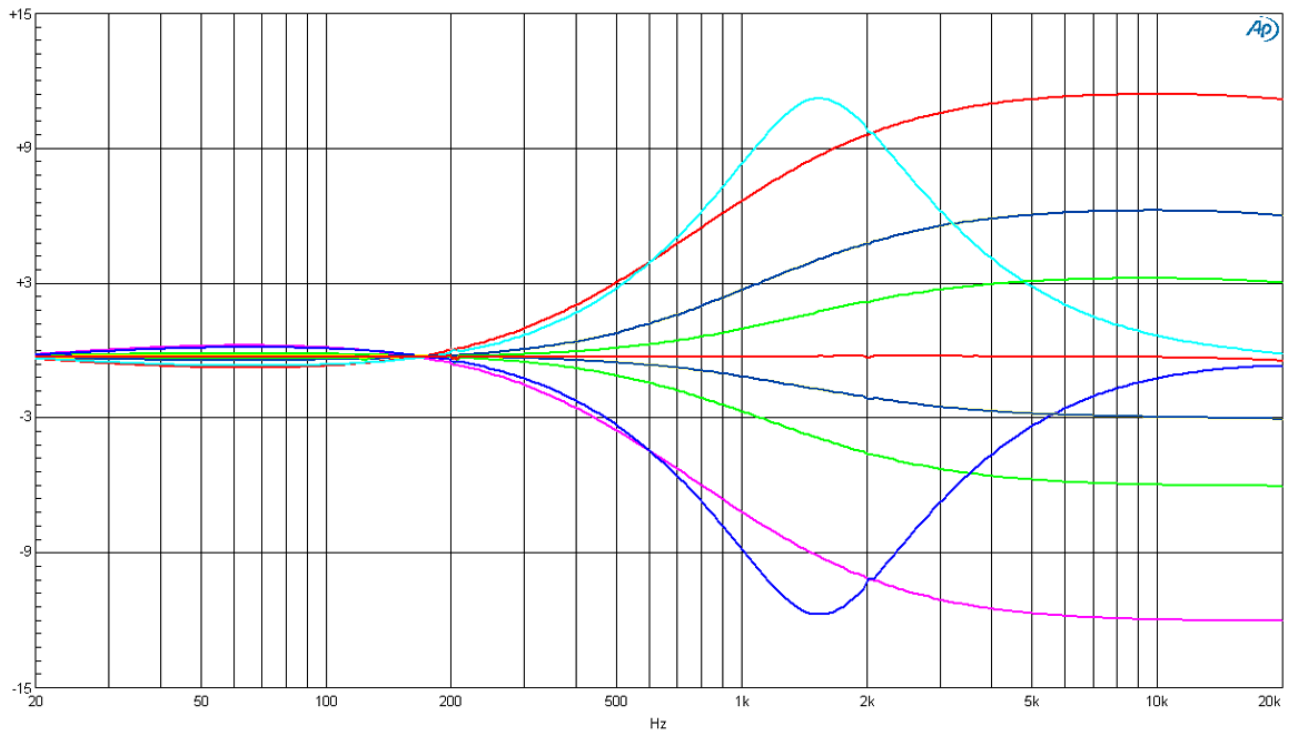
BAND EQ CURVES PEAKING

This graph showes a typical peaking eq curve. This was measured on band 3.
Only one frequency is showen for clarity. There are several boost and cut levels at differ-
ent bandwidths. These curves apply to all 4 bands for a total of 96 different frequencies.
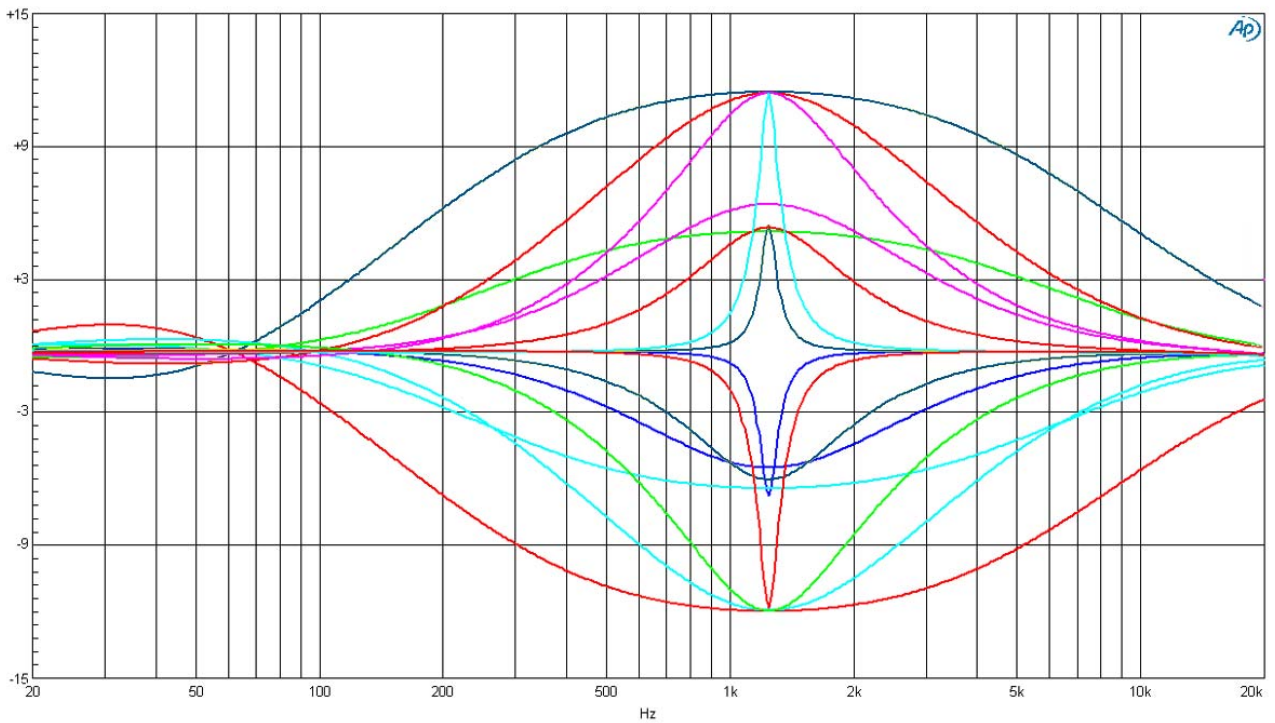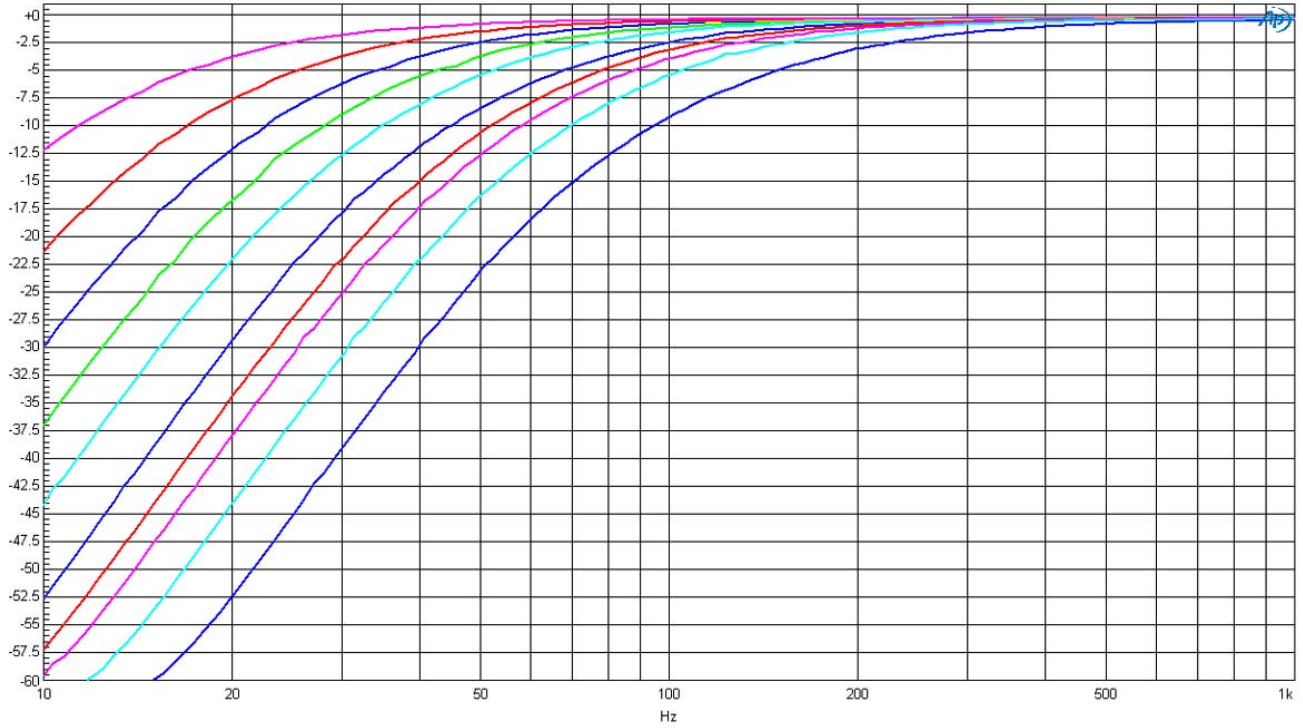
LOW CUT EQ CURVES

This graph showes a typical low cut curve. Three frequencies are showen for clarity. Each showing the 12 db pre octave slope and the 24 db per octave slope. Frequencies of 40 , 80, and 150 Hz are showen.
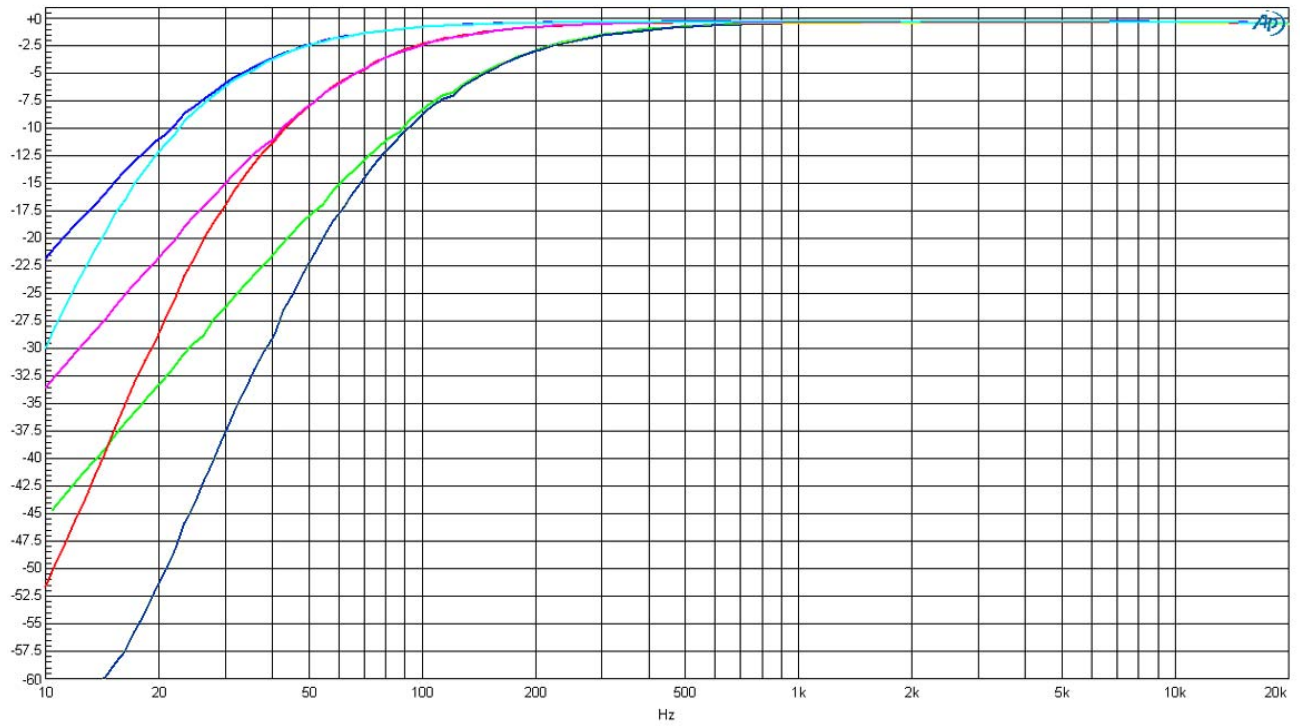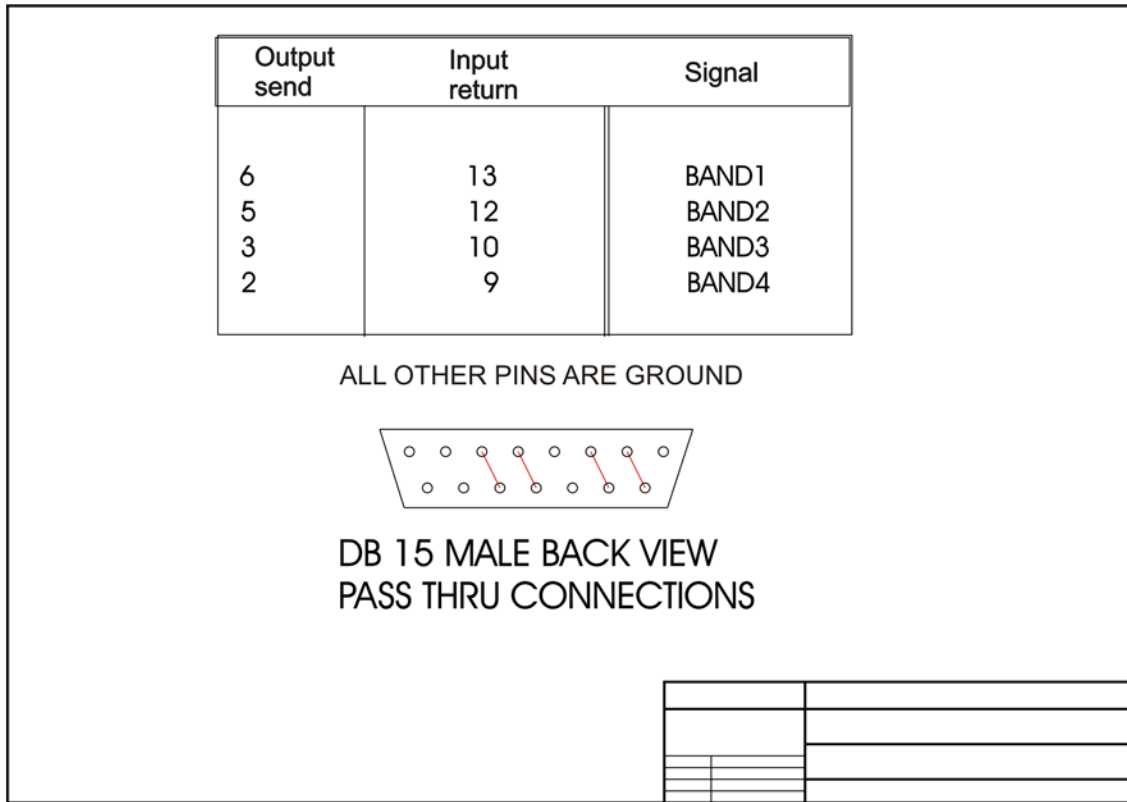
LOW CUT EQ CURVES

This graph showes the range of the low cut curves. All frequencies are at the 24 db per octave slope.

IBIS INSERT CONNECTOR

Output send	Input return	Signal
6	13	BAND1
5	12	BAND2
3	10	BAND3
2	9	BAND4

ALL OTHER PINS ARE GROUND

DB 15 MALE BACK VIEW
PASS THRU CONNECTIONS

If you are going to use this, use it with caution. The inserts are a loop and must be normaled for the band to work correctly. If there is a phase inversion in the inserted device it is possible that the system will be an oscillator. This will not hurt Ibis, but your Speakers.

IBIS INPUT ——— boost / cut amp ——— IBIS OUTPUT

Insert — Return / Send
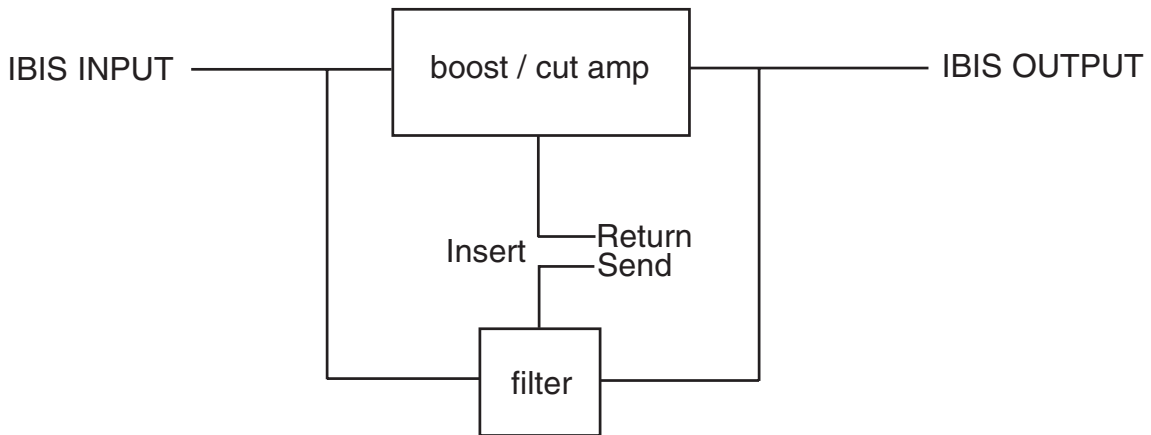
filter

There are 4 filter circuits in parallel in Ibis. When using the insert with a compressor you are modifing the filter output before is sums back into the audio path. The inserts are unbalanced

iBiS

CH1 IN OUT CH2 IN OUT POWER ON OFF

Band (repeated for each frequency band):

CUT 0 BOOST · 3 · 6 · 9 · 12 · 12 · IN

BANDWIDTH · .5 OCT · 3.5 OCT · STEP · IN +1

Frequency markings:

- Df 4.98K · G · B · G · B · Df 9.9K · G 1.57K · Df 19.9K
- F# 1.48K · A# · D 2.35K · D · F# · A# 3.73K · A# 466 · F# 5.9K
- A 440 · C# · F 700 · A 880 · C# · F · C# 139 · A 1.76K · C# 220 · F
- G# 104 · C · E · G# 208 · C 262 · E · G# 415 · C 33 · G# 52 · E

LOW CUT: 60 · 70 · 80 · 90 · 100 · 120 · 150 · OUT · 50 · 40 · 30 · 20 · IN = STEEP

BAND3 · BAND4 · BAND2 · BAND1 · FULL · OFF · COLOR SOURCE

COLOR · 0 · 1 · 2 · 3 · 4 · 5 · 6 · 7 · 8 · 9 · 10

FREQ 3 · FREQ 4 · FREQ 2 · FREQ 1 · ALL · OFF · COLOR SOURCE

INTERFACING - SPECIFICATIONS

Input: Floating, balanced. Maximum input is +25 dBm.
                           The connectors are XLR.

Output: Floating, balanced. Maximum output is +25 dBm.
                           The connectors are XLR.

Input and Output :   Pin 2 is Sig + , Pin 3 is Sig- , Pin 1 is GND
Connections

Power: 100, 120, 230,240 volt; 50/60 Hz; 55 watts
                           MDL .6A Fuse for 100V and 120V
                           MDL .3A Fuse for 230V and 240V

Noise: Measured with the eq set flat and the bandwith controls at max
                           -85dbm

Clipping: +25 dbm

Distortion: With the eq set flat measured at +20 dbm 0.001%

Pilot Lamp: # 327

Shipping
Weight: 19 lbs. (8.6 kg)

Depth
Behind Panel: 12.5 inches (31.75 cm) plus cabling

Panel Height: 2 rack spaces

Frequencies: There are 24 frequencies per band for a total of 96 frequenices
                            with the bands overlapping. They are stepped on both the mastering
                           and standard units

Boost-Cut: The standard equalizer has a range to plus or minus 12 db on each
                           band. The Mastering version has a range of plus or minus 6 db
                           This is stepped 0.5 db steps to 5 db and a 1 db step to 6db on the
                           mastering version.

Bandwith: Bandwidth in octaves is measured at full boost. The maximun is 4
                           octaves and a minimun is 0.2 octaves. This is a Q range from 0.15 to
                           17 On the mastering unit this is stepped with 12 steps.