# Appendix 1

## Contents

**Parameters, Units and Ranges ..... A-3**

# Parameters, Units and Ranges.

Approximately following the M1's signal path, these are the values and ranges appropriate to each type of processing.

## System Level

| | |
|---|---|
| Headroom: | 20dB |
| Nominal Operating Level: | -20dBFS |
| LED Input/Output Level Meter | |

## Input

| | |
|---|---|
| Type: | Electronic Differential |
| Input Impedance: | > 2kohms at 1kHz |
| Optimum Source Impedance: | 200 ohm |
| Phantom Power: | 36V |
| Maximum Gain: | 70dB |
| Minimum Gain: | -10dB |
| Gain Increments: | 1dB |
| EIN: | -128dBu |
| FR: | + / - 0.2dB |
| THD+N: | <0.03%20Hz - 20kHz@-50dBu in |
| SMPTE DIM: | 0.00007% |

## Filters

### a. High-Pass Filter

| | |
|---|---|
| Filter class: | 24dB/oct. Butterworth |
| Frequency: | 20Hz – 1kHz (default 80Hz) |
| Defaults: | Off |

### b. Low-Pass Filter

| | |
|---|---|
| Filter class: | 24dB/oct. Butterworth |
| Frequency: | 1kHz – 20kHz (default 4kHz) |
| Defaults: | Off |

## Equalization

Four independent bands of equalization:

| | |
|---|---|
| Low Frequency: | Shelving 20Hz – 200Hz |
| Mid Frequency (two identical bands): | Parametric 20Hz – 20kHz, 0.2-3.0 octave BW |
| High Frequency: | Shelving 2kHz – 20kHz |
| Lift / Cut: | + / - 14dB |
| Defaults: | All off |
| | Defaults When Activated |
| | LOW: 50 Hz, +6dB |
| | MID1: 800Hz, 0.5 oct., -4dB |
| | MID2: 2.8kHz, 0.66 oct., +3dB |
| | HIGH: 16kHz, +8dB |

## De-Esser

| | |
|---|---|
| Type: | Recursive-style true (not broadband) De-Esser |
| Threshold: | -10 to -60dBfs (default -20dBfs) |
| Release: | 50mS – 500mS (default 100mS) |
| De-Ess Frequency: | 20Hz – 20kHz (default 4kHz) |
| Defaults: | Off |

LED Gain Reduction Meter

## Expander

| | |
|---|---|
| Type: | Downward Expander |
| Threshold: | -60 – 0dBfs (default -40dBfs) |
| Close: | 50mS – 3Sec. (default 300mS) |
| Depth: | 0 – 40dB (default 14dB) |
| Defaults: | Off |

LED Gain Reduction Meter

## Compressor

| | |
|---|---|
| Threshold: | -10 to -50dBfs (default -40dBfs) |
| Attack: | 0.2mS – 1S (default 1mS) |
| Release: | 33mS - 1Sec. (default 150mS) |
| Ratio (soft-knee): | 1:1 – 1:20 |

LED Gain Reduction Meter

## Control

| | |
|---|---|
| Local: | Front Panel<br>All parameters accessible via a rationalized set of front-panel controls and displays. |
| Remote: | Software<br>Windows® GUI software affords control of all parameters, via Ethernet. |