MADI-8

I. Background

Multichannel Audio Digital Interface, MADI or AES10, is an industry-standard electronic communications protocol that defines the data format and electrical characteristics of an interface carrying multiple channels of digital audio. Its advantages over other audio digital interface protocols and standards are support of a greater number of channels per line and the use of coaxial and optical fiber that enable the transmission of audio signals over 100 meters and up to 3000 meters. For the Outside Broadcast market, MADI is extremely desirable as it greatly reduces the amount of cable and weight associated with traditional analog or AES based audio distribution.

While implementing MADI has always been on Wohler's radar for many years, a consortium of major production truck companies approached Wohler with a desired design and requirements. Similar in appearance and operations to the VMDA-SUM8, the MADI-8 incorporates MADI connectivity. The engineering specification was circulated amongst the consortium to come up with the final consensus (*MADI-8 Rev.3 Engineering Spec*).

II. Concept

The MADI-8 MADI Monitor can be connected in series in a 64-channel MADI stream to audibly monitor up to 8 channels:

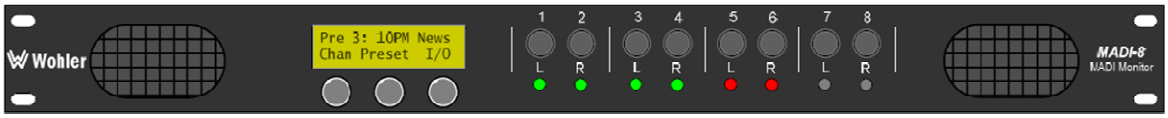
1. Coax MADI input and output.
2. Optical MADI input and output.
3. Balanced adjustable or fixed analog outputs.
4. Speaker-mute for output mix only.
5. Channel presence indicators.
6. 8 presets (channel names will be shared amongst all presets).
7. Ability to attach names to selected channels.
8. 16 character by 2 line LCD display.
9. 1RU shallow depth chassis fits anywhere, even in crowded production trucks.
10. Internal power supply with IEC connector.

III. Features & Specifications

1. **Inputs:** MADI BNC connector and MADI optical connector:
    - Sample Rate: 48 kHz, 64 channels.
    - Channel Doubling: No
    - Varispeed: No
    - Demultiplexing: 8 individual channels.
2. **Outputs:** MADI BNC connector and MADI optical connector.
3. **Output:** Balanced XLR for left channel:
    - Same as mix for left speaker.
    - Level: +4 dBu, either affected by volume controls or not depending on programmable setup.
4. **Output:** Balanced XLR for right channel:
    - Same as mix for right speaker.
    - Level: +4 dBu, either affected by volume controls or not depending on programmable setup.
5. **Output:** Balanced XLR for mono mix:
    - Same as mix for left and right speakers.
    - Level: +4 dBu, either affected by volume controls or not depending on programmable setup.
6. **Acoustic Frequency Response:** 300 Hz to 10 kHz (+/- 6 dB).
7. **Acoustic Distortion:** < 2% 300 Hz to 10 kHz.
8. **Acoustic Output:** 90 dB SPL @ 2 feet.
9. **Power:** IEC connector, 100-240 VAC +/- 10%, 50/60 Hz.

IV. Hardware Design

Front Panel View:



Rear Panel View: