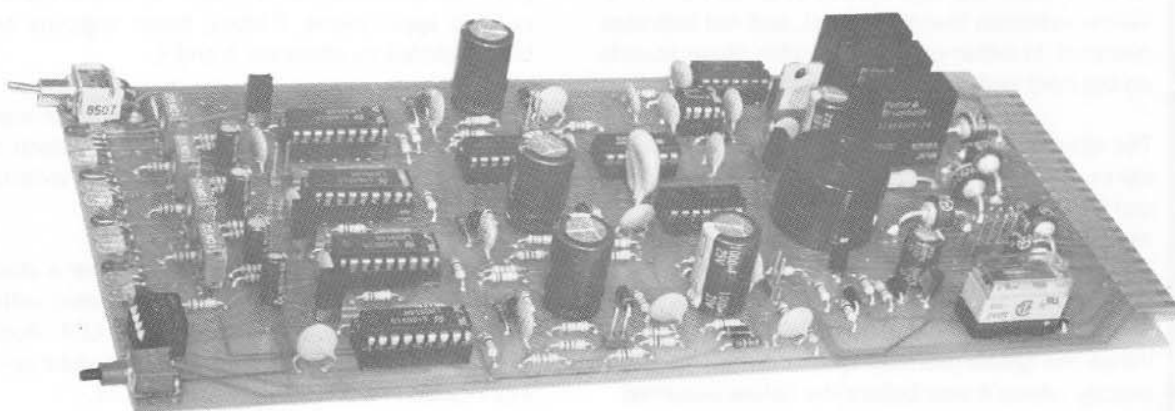


USI AUDIO

TM

3044-AL **Four-channel System** **Status Monitor** **for DME-3000 System**



Product Data

- **Monitors pink noise levels at line or speaker levels**
- **Monitors DC voltage levels (5 - 30 VDC)**
- **Four individual channels each with switchable pad**
- **On-board audible and visual monitoring**
- **Remote audible and visual monitoring**
- **Key component in redundant power supply operation**
- **Delay on alarm to prevent false triggering**
- **For use with the USI Audio DME-3000 Series modules and chassis**

Summary Specifications:

Voltage Monitoring Range on DC Inputs:
5 - 30 VDC

Monitoring Range on Noise Inputs:
(Without Pad) -10 dB to +10 dB
240 mV to 2.4 V
(With Pad) +10 dB to +22 dB
2.4 V to 10 V

Window Range on DC Inputs:
Approximately 10% of monitored voltage

Window on Noise Inputs:
Approximately ± 3 dB

Frequency Response:
20 Hz - 100 kHz ± 6 dB

Power supply voltage (alarm circuits):
Bipolar 12 - 15 VDC

Power Supply Voltage (relay switching circuits):
24 VDC

Description

The 3044-AL alarm card is a unique four-channel monitoring device that will monitor DC power supply voltages (5 - 30 VDC) or pink noise (line or speaker level) in noise masking systems. To accomplish this, the card features on-board audible and visual monitoring devices, as well as remote audible and visual monitoring capability.

Each channel has a calibration control and 3 LED's. When the DC voltage or pink noise source is set to the correct level in the system, the calibrate control is adjusted so that the green LED is illuminated. If the voltage on that channel changes by approximately $\pm 10\%$ for DC or ± 3 dB for pink noise, the appropriate LED will illuminate. Yellow indicates low or no level, and red indicates overload. In either case, the audible alarm sounds on the card and at a remote location if desired.

The alarm silence switch can be used to mute the alarm. The channel that is in an alarm condition can be disabled, and the card can be reset so the remaining three channels will remain monitored. When the amplifier or power supply has been restored to proper operation, its output level can be reset by observing the LED's on the card. When the green (normal) LED is lit, the output is exactly where it was before the failure occurred.

In a typical system, two power supplies are connected to the 3044-AL and are paralleled together with isolating diodes. The paralleled voltage is now used to power the 3044-AL card itself, so that power will never be lost to this card should one of the power supplies fail. Both power supplies are monitored on channels 1 and 2 of the card.

This supply is now available to power any additional 3044-AL cards in the system if needed. In A/V systems, this supply can be used to power other audio products such as distribution and summing amplifiers. Two additional power supplies can be paralleled together for use in control or logic applications. If used, these supplies can be monitored by channels 3 and 4.

The 3044-AL includes a circuit which can be used with appropriate relays to control rack power or system power. Control is by one or more external momentary switches.

The unit is designed to be used as either a stand alone card with edge connectors installed within a rack or enclosure, or with the USI Audio 3000-MF Chassis, which will accommodate up to eight cards in a 5 1/4" high rack mount.

Specifications

Power supply voltage (alarm circuits):

Bipolar 12 - 15 VDC

Operating Current (alarm circuits):

$I_{max} = 60$ mA with all four channels in normal set mode

$I_{max} = 100$ mA during alarm state

Power Supply Voltage (relay switching circuits):

24 VDC

Operating Current (relay switching circuits):

$I_{max} = 65$ mAmps

Current through Switching Relays to Buss:

$I_{max} = 5$ Amps

Voltage through Alarm Relay:

$V_{max} = 30$ VDC

Current through Alarm Relay:

$I_{max} = 2$ Amps

Voltage Monitoring Range on DC Inputs:

5 - 30 VDC

Monitoring Range on Noise Inputs:

No Pad -10 dB to +10 dB

240 mV to 2.4 V

With Pad +10 dB to +22 dB

2.4 V to 10 V

DC Input Resistance:

26K Ω

Noise Input Impedance:

35K Ω Normal

20K Ω Pad Inserted

Window Range on DC Inputs:

Approximately 10% of monitored voltage

Window on Noise Inputs:

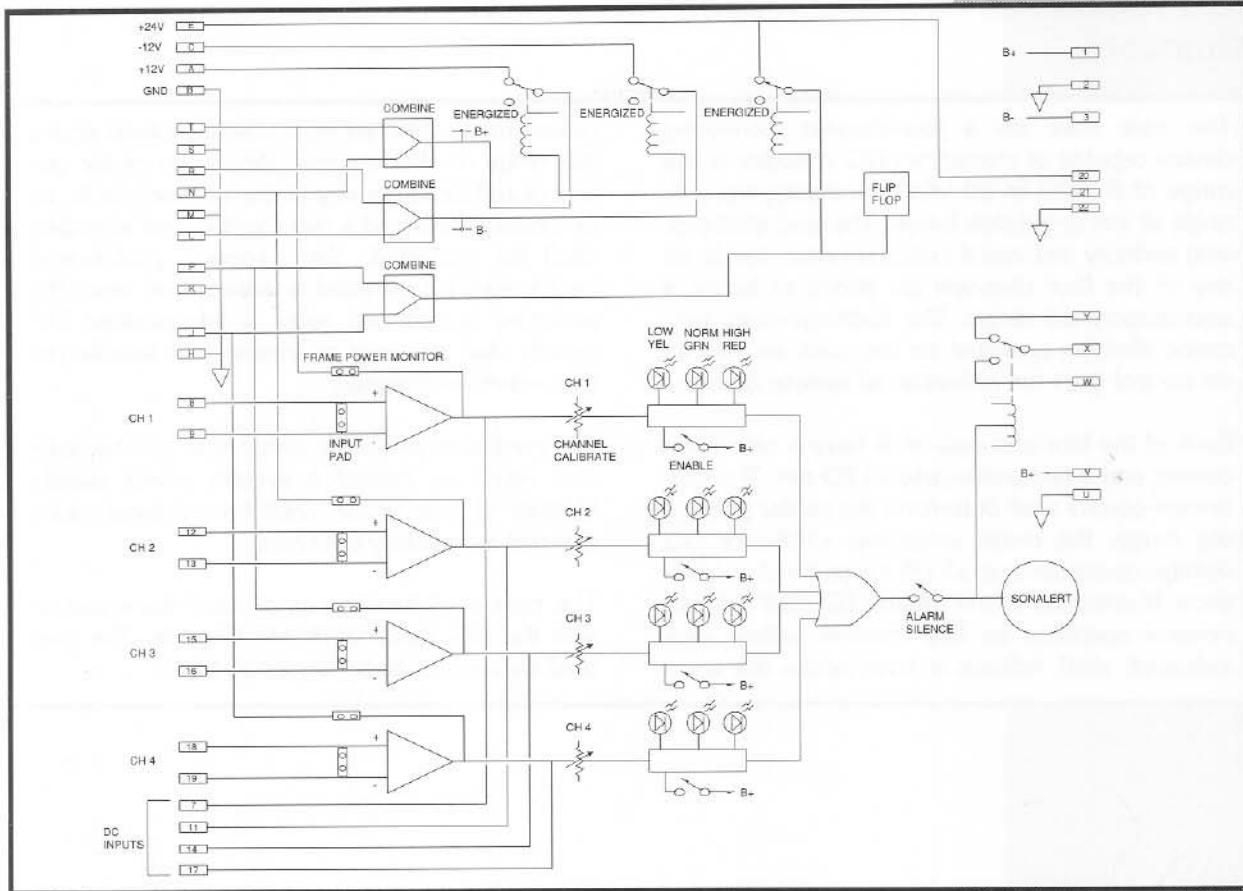
Approximately ± 3 dB

Delay Time on Alarm:

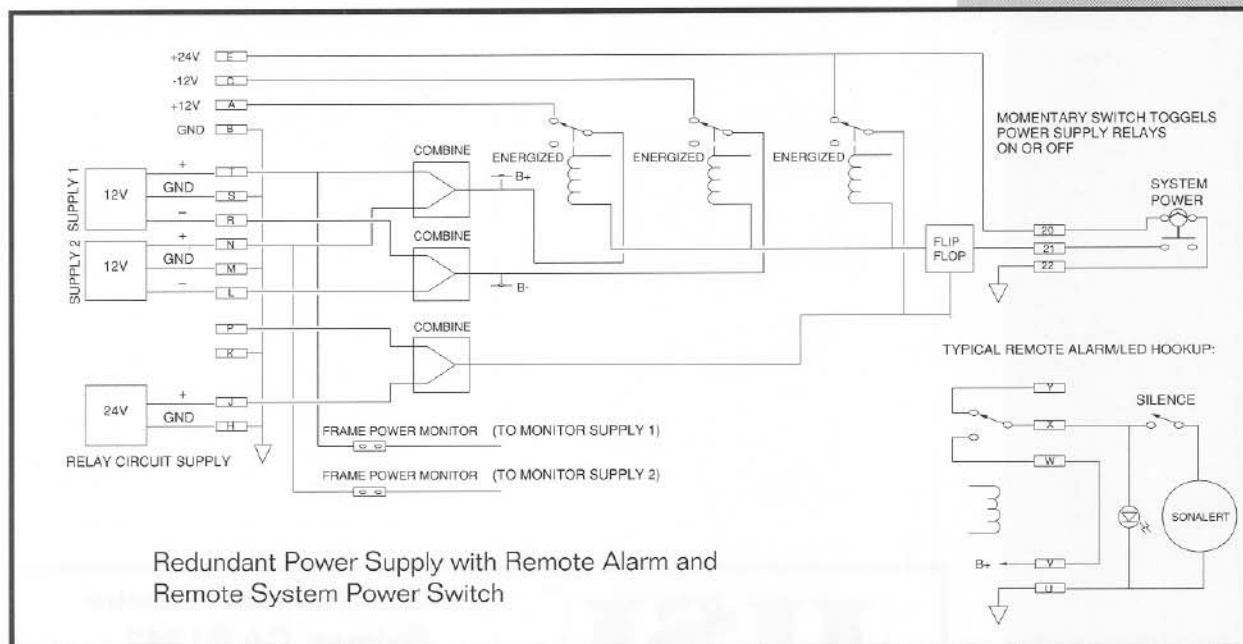
Approximately 2 seconds - DC inputs

Approximately 4 seconds - Noise inputs

Block Diagram



Typical Application



Architect's, Engineer's, and Specifications

The card shall be a four-channel monitoring device capable of monitoring DC voltages in the range of 5 VDC to 30 VDC, or monitoring pink noise at line to speaker levels. The card shall provide auditory and visual indication when levels on any of the four channels go above or below a user-determined range. The auditory/visual indication shall be provided on the card, as well as on control lines for activation of remote devices.

Each of the four channels shall have a calibration control and a red-green-yellow LED set. The calibration control shall determine the center point of the range, the range extending $\pm 10\%$ for DC voltage operation and ± 3 dB for pink noise operation. Illumination of the green LED shall indicate nominal operation on that channel, yellow shall indicate a level below the user-

preset range, and red shall indicate a level above the range on that channel. When any of the yellow or red LEDs on any of the channels is lit, an on-board buzzer and a relay for external signalling shall be activated. An on-board push-button switch shall be provided to silence and reset the activated buzzer and relay. A four-position DIP switch shall be used to enable and disable the four individual channels.

The card shall include a circuit that can be used with relays to control a system power supply. Control of this circuit shall be achieved using external momentary switches.

The card shall function as a stand-alone unit or with the USI Audio 3000-MF Chassis. The card shall be the USI Audio Model 3044-AL.

Part #207-0058-00

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