

Automatic Failure Detector/Substitutor



Model AFDS-2

Features

- Supervises both main and standby power amplifiers
- 2dB* drop in either amplifier's output signalled by LEDs and tone
- Automatically transfers operation to standby power amplifier
- Automatically restores operation to main power amplifier when trouble is corrected
- Operates from 120VAC or 12VDC
- Standard 19-inch rack mounting

Description

The Bogen Model AFDS-2 Automatic Failure Detector and Substitutor provides continuous electronic supervision of the main and standby power amplifiers in a sound system, and substitutes the standby power amplifier should the main power amplifier's output drop by as little as 2dB. The changeover is almost instantaneous with virtually no loss of signal, thereby assuring uninterrupted performance. This device is a critical, highly desirable component in systems with a dedicated emergency announcement amplifier.

The device pulses a 40kHz frequency into the inputs of the main and standby power amplifiers and continuously analyzes their output. If the 40kHz level from either amplifier should fall below 2dB*, a fault alert tone will sound, indicating a failure. Front-panel-mounted LEDs indicate which (main or standby) amplifier has failed. The fault alert tone may be silenced by momentarily pressing the SILENCE button; however, the LED will stay on for the duration of the malfunction and the SILENCE button will automatically reset when the failure is corrected.

The unit operates with 25V or 70V constant-voltage systems, balanced or unbalanced. In a balanced

system, two accessory input isolation transformers (TL100) are required. In applications where the preamplifier is located away from the amplifier, the AFDS-2 input can be converted to 600 ohms with an accessory WMT-1A Line-Matching Transformer.

Rear-panel screwdriver-adjustable controls are provided for setting the oscillator level and the detector levels and sensitivities. All connections are made at screw terminals or phono jacks also located at the rear panel.

The unit operates from a line voltage of 120VAC, 60Hz or from a 12VDC source. It has a standard 19-inch panel 3-1/2 inches high (48.26cm x 8.89cm), making it suitable for either rack mounting or cabinet installation. The front panel is made of #16 gauge cold-rolled steel, finished in black enamel.

*Threshold is adjustable

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Technical Specifications

Supervision Frequency: 40KHz
Supervision Frequency Level: 5mV to 50mV into 47 kilohms
Input Impedance: Medium-Z 10 kilohms
Detector Input Signal @ 40kHz: 2V
Detector Supervision Range: 2dB (min.) to 12dB (max.)
Failure Indicators: LEDs (visual) and tone module (aural)
Controls: Screwdriver-adjustable controls for oscillator level and detector sensitivity
Remote Annunciation: Status terminal provides 12VDC/100mA in the failure mode
Power Consumption: 120VAC, 15W or 12VDC @ 0.5A
Operating Temperatures: 14° F (-10° C) to 149° F (65° C)
Dimensions: 19" W x 3-1/2" H x 7-1/2" D (48.26 x 8.89 x 19.05 cm)
Weight: 8 lbs. (3.6 kg)
Finish: Black enamel
Associated Equipment: Bogen Model TLI00 Input Isolation Transformer
Bogen Model WMT-IA 600-Ohm Line-Matching Transformer

Architects and Engineers Specifications

The amplifier failure detector and automatic substitutor shall be a Bogen Model AFDS-2, or equivalent, capable of continuously supervising the operation of any main power amplifier and its standby amplifier in a sound system. It shall be capable of detecting a loss of as little as 2dB in either amplifier and automatically switch operation from main to standby amplifier, should the main amplifier be at fault. The failure of either amplifier shall be indicated by a corresponding front-panel-mounted LED and an aural fault alert tone. It shall be possible to silence the tone by depressing the SILENCE button which shall automatically reset when the failure is corrected.

A 40kHz signal, originated within the AFDS-2, shall be pulsed into the inputs of the main and standby amplifiers and their outputs shall be continuously analyzed; if either amplifier should fall below 2dB*, the AFDS-2 shall be activated. It shall be suitable for operation with, and capable of detecting failure in, any 25-volt or 70-volt balanced or unbalanced system. In a balanced system, two accessory isolation transformers (specify Bogen Model TLI00, if needed) shall be required.

The device shall be powered from either a 120VAC, 60Hz line or a 12VDC source, with power consumption limited to 15 watts or 0.5 ampere, respectively. Screwdriver-adjustable controls shall be provided on the unit for setting the sensitivity of the device and the level of the 40kHz oscillator.

The unit shall be 19"W x 3-1/2"H x 7-1/2"D and shall weigh 8 pounds. The panel shall be fabricated from #16 gauge cold-rolled steel and shall be finished in black enamel

*Threshold is adjustable.



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