

Features

- Federal Transportation Administration compliant
- Up to 16 different sounds or tones are available
- 125 dB at a 4 foot distance
- Any sound and tone can be produced
- Traffic and passengers can be warned of dangerous situations when the vehicle is approaching and/or leaving a stop
- Traffic and pedestrians can be warned at crossing intersections
- Second amplifier for additional interior digital announcements and/or interior tones

Introduction

The Train Digital Sound Generator (TDSG) provides automatic exterior and interior digital announcements, sounds and tones for public transportation vehicles. The system consists of a Controller/Amplifier Unit which is mounted inside the vehicle and an exterior/interior speaker system. The exterior speaker system consists of a professional audio driver and horn. To withstand extreme external environmental conditions, the exterior speaker system housing is IP67 waterproof compliant and is customized to your specification. The interior speaker system can be an existing system or additional speakers mounted at specific locations inside the vehicle depending upon the required functionality. i.e. near the doors to trigger a door obstruction announcement when such a condition occurs.

Manual Operation

The vehicle operator can initiate announcements, sounds and tones manually by activating relevant pushbuttons on the dashboard of the cab.

Standard System Functions

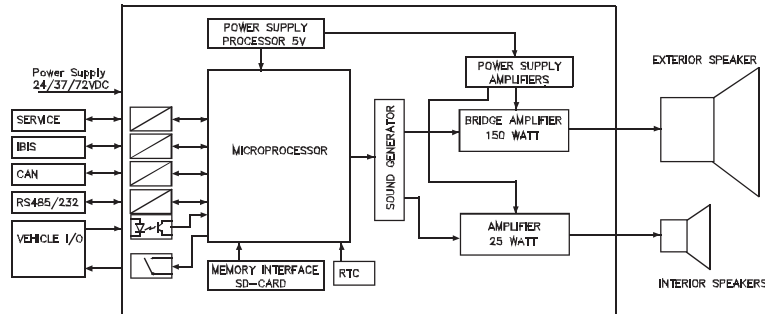
- Any sequence of sounds mandated by the Federal Transportation Administration can be configured
- Announcements, sounds and tones can be initiated automatically by external input signals from the vehicle wiring
- The volume of announcements, sounds and tones can be configured for time-of-day segments using an integrated real time clock

Service Tools

- Three pushbuttons on the front of the Controller/Amplifier Unit are used for initiating test procedures
- Four LEDs on the front of the Controller/Amplifier Unit display the system status
- An optional, user-friendly software application is available for configuration and testing purposes

Database Management

No special software is required for maintaining and/or upgrading the internal digitally compressed MP3 database. A customer provided standard PC with SD-Card read/write device and a standard audio management software application may be used for this purpose. This enables the user to make their own or studio produced announcements, sounds and tones. The internal memory of the Controller/Amplifier Unit can be loaded from either a PC through the serial interface or the optional external SD-Card download slot.



Block Diagram of TDSG-125

Specifications Controller/Amplifier Unit

Power Amplifier 1	150 W at 16 Ohm
Loudness at 4ft distance	125 dB
Test Results	High Horn: 102 dB at 30m distance, Low Horn: 96 dB at 30m distance and Bell: 92 dB at 15m distance.
Power Amplifier 2	25 W at 8 Ohm
Audio Bandwidth	20 ~ 15 kHz
Audio Compression	MP3
Microprocessor	M32C/84 - 512 KB Flash
Serial Interface	Standard RS232, Optional IBIS, CAN and RS485 (TCP/IP in development)
Vehicle Interface	8 Opto-Coupler inputs
Internal Memory	Standard 256 MB SD-Card, Optional 2GB Max.
SD-Card Interface	Standard Internal, Optional External Download Slot
Internal Clock Retention	~ 10 days without external Power
Power Requirements	Power Consumption 24 VDC 8 Amp
	Input Voltage 24 VDC, Optional 37.5 VDC and 72 VDC (-30+25%)
Environment	Temperature -13 ~ +158 °F (-25 ~ +70 °C), Operating
	Humidity -95% @ 104 °F (+40 °C) (non condensing), Operating
	Vibration Resistance 1 Grms, IEC 60068-2-64, Random, 5 ~ 500 Hz, 1 Oct/min, 1 hr/axis, Operating
	Shock Resistance 20 G, IEC 60068-2-27, half sine, 11 ms, Operating
Physical Characteristics	Construction Aluminum housing
	Mounting Stand alone or 19" rack mounting
	Dimensions (WxHxD) 6.69" x 5.11" x 2.75" (170 x 130 x 70mm)
	Weight 2.4 lb (1.08 kg)

Specifications: Audio Driver

Frequency Response	160 - 6,500 Hz
Sensitivity	113 dB
Power Capacity	50 Watt rms/75 Watt max (16 Ω)
Dimensions	Ø 4.9" x 3.9" (125 x 100 mm)

Ordering Information

Part Number	Description
6950 0000 5361	Controller/Amplifier Unit
6950 0000 5362	Audio Driver with Horn type 1
6950 0000 5363	Audio Driver with Horn type 2
6950 0000 5496	Audio Driver with Horn type 3

Specifications: Horn

Horn type 1	(W x H x D) 14.6" x 8.25" x 13.0" (370 x 209 x 330 mm)
Horn type 2	(W x H x D) 14.5" x 6.5" x 9.0" (368 x 165 x 228 mm)
Horn type 3	(W x H x D) 8.2" x 5.2" x 3.75" (208 x 132 x 95 mm)