MODEL 500D

ZONE OUTPUT CARD

DESCRIPTION

The IED Model 500D Zone Output Card is one of the plug-in components of the IED Model 500ACS Announcement Control System. Its primary function is to distribute the audio from the internal audio buses to the system outputs (zones) under computer control, allowing software to select any signal from any one of the 8 internal audio buses to be directed to any output at any given time. Although a zone may be fed by only one bus at a time, a bus may feed any number of zones.

The 500D also has provisions for independent remote control of the background music levels of the eight zones by use of eight Model 110B VCAs on the card. The 110Bs also provide 20 dB of automatic ducking of the background music during any announcement or message.

The 500D is designed to plug into the Model 500M or 500ME Mainframe using 2 card edge connectors. The 80 pin upper connector, which is mounted on the mainframe mother board, connects the 500D to the microprocessor bus and the DC power supplies. The 60 pin lower connector is mounted on the Model 500GT Zone Output Terminal Board which mounts on the rear of the mainframe. The compression-type screw terminal connectors which allow the 500D to be connected to the 8 zones are mounted on the 500GT.

Two modes have been provided for background music feed. One mode utilizes the background music bus on J1 and feeds the same signal to all zones. The other permits the introduction of individual background music feeds to each zone. The mode is selected by plug-in SIP resistor networks or individual resistors. In either case, a background music level control is provided for each zone.

The 500D also distributes test tones to all zones. The test tone which is brought in on the 500R card is distributed to the 500D card via the Test Tone bus on J1.

There are 8 green LED's which indicate the zone activity of the card. They are mounted on the front edge and are visible when the card is in place. When a zone is being used for an announcement or message, its LED is lit.

Card address selection is accomplished by use of a seven position (14 pin) array located near the 60 pin lower card edge connector on older version cards (earlier than July, 2002), or an eight position DIP switch near the top of the card on newer version cards. An additive binary (powers of 2) code is used. Each position is numbered on the printed circuit board with its value. The card address is the sum of the values of all positions in which jumpers have been placed. With this arrangement there are 128 possible addresses (0 through 127).

The block diagram, Figure 1, illustrates the audio functions of the 500D card. The screw terminals do not connect directly to the 500D card. They are mounted on the 500GT Zone Output Terminal Board. The 500D card plugs into the 500GT and connections between the 500D and 500GT are made through card edge connectors. Optional Models 500JT and 510JT Background Music Control Terminal Strips provide screw terminal

IED®
Innovative Electronic Designs

connections for individual direct background music inputs and independent remote control of the background music. They mount on the rear of the 500M or 500ME Mainframe.

Optional Models 500JT Background Music Control Terminal Board and 510BGM Background Music Interface Panel provide the capability of interfacing remote music sources for locations such as retail shops or restaurants.

SPECIFICATIONS

AUDIO

1. Number of Audio Inputs (all internal)
   - Audio buses 8
   - Background Music bus 1
   - Test Tone bus 1
   - Direct Background Music inputs 8
2. Gain Controls
   - Announcement or Message Zone Output 8
   - Background Music (External) 8
3. Gain Range
   - Announcement or Message Zone Output . . . . . 0 — 85 dB
   - Background music (External) . . . . . –6.5 - 75 dB

*4. Total Harmonic Distortion (THD) 02%
20 Hz - 20 kHz, +20 dBu

*5. Intermodulation Distortion (IM) 06%
+20 dBu

*6. Frequency Response . . . . . +0, –0.2 dB
20 Hz - 20 kHz

*7. Bandwidth (B) . . . . . 10 Hz - 22 kHz
-3 dB points

*8. Noise Referred to the Input (NRI) . . . . . –85 dB
Input = +4 dBm, 20 Hz - 20 kHz

9. Maximum input Level, Direct Background Music Input . . . . . +20 dBu
10. Direct Background Music Input Configuration . . . . . Unbalanced
11. Number of Zone Outputs 8
12. Output Impedance (Zout) . . . . . $<0.5\Omega$
13. Maximum Output . . . . . +20 dBu

* Applies to 8 audio buses, 1 background music bus, 1 test tone bus, and 8 direct background music inputs.

POWER

1. Power Consumption . . . . . 10 W, ±5%
2. Power Supplies Required by Card . . . . . +15 VDV, -15 VDC, +5 VDC

Innovative Electronic Designs, Inc. • 9701 Taylorsville Road • Louisville, Kentucky 40299 • USA
Phone: (502) 267-7436 • Fax: (502) 267-9070 • Internet: http://www.iedaudio.com

MECHANICAL

1. Size (maximum overall dimensions)
   - Height . . . . . 9.31"
   - Width . . . . . 1.125"
   - Depth . . . . . 12.5"
2. Weight. . . . . 2.75 lb

ENVIRONMENTAL

1. Operating Temperature Range . . . . . (+32 °F - +131 °F) 0 °C - 55 °C
2. Storage Temperature Range . . . . . (–40 °F - +158 °F) –40 °C - 70 °C

CONNECTORS

1. Audio Bus
   - Board-mounted connector (male) . . . . . AMP 102160-4
   - Mating ribbon cable connector (female) . . . . . AMP 499573-4
2. Background Music Control and Direct Input
   - Board-mounted connector (male) . . . . . AMP 102160-4
   - Mating ribbon cable connector (female) . . . . . AMP 499573-4
3. Address Selection Shunt . . . . . AMP 531220-2

IED®
Innovative Electronic Designs

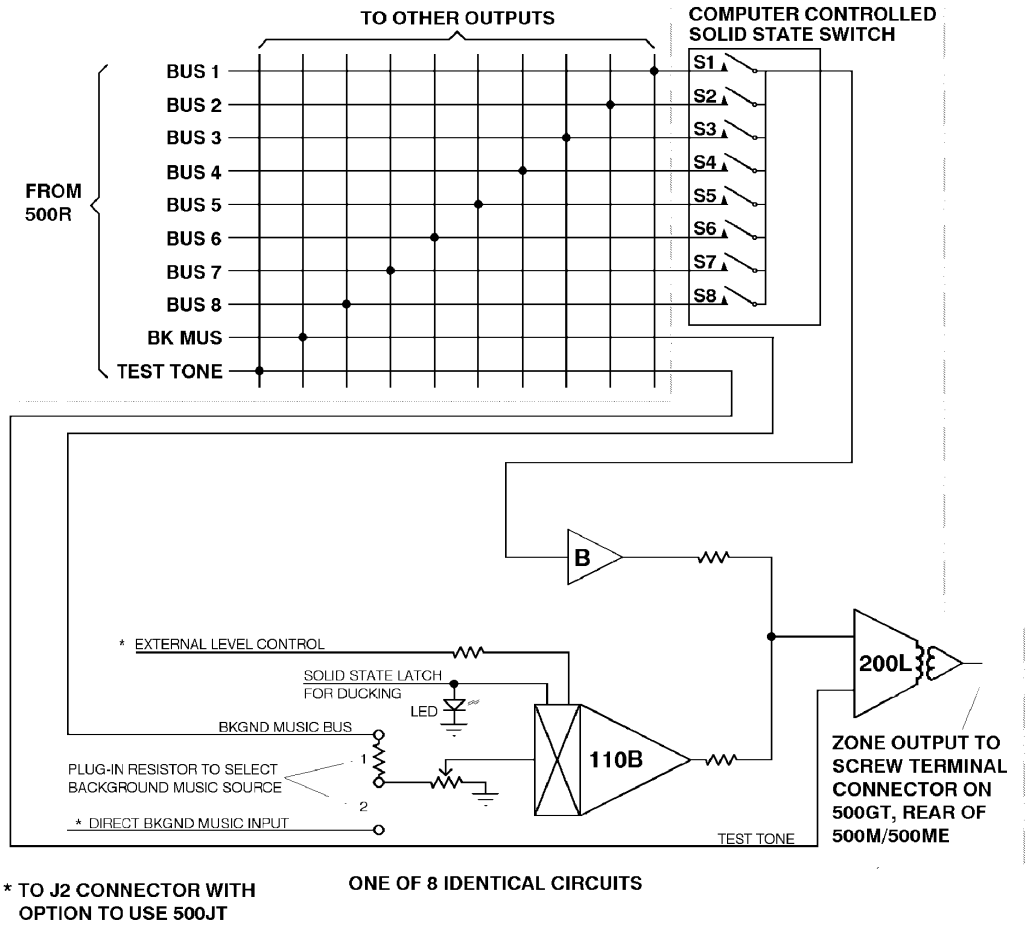

Figure 1 - 500D block diagram

Innovative Electronic Designs, Inc. • 9701 Taylorsville Road • Louisville, Kentucky 40299 • USA
Phone: (502) 267-7436 • Fax: (502) 267-9070 • Internet: http://www.iedaudio.com

Figure 2 - 500D Zone Output Card

This page left blank intentionally

Innovative Electronic Designs, Inc. • 9701 Taylorsville Road • Louisville, Kentucky 40299 • USA
Phone: (502) 267-7436 • Fax: (502) 267-9070 • Internet: http://www.iedaudio.com