
MODEL T9116

ZONE OUTPUT PROCESSOR MAINFRAME

The Model T9116 Zone Output Processor Mainframe provides digital audio network connections utilizing CobraNet technology to an IED audio network controller such as the IED 500ACS Announcement Control System. Local program or background music (BGM) inputs connect via analog connections.

Digital Signal Processing on 16 incoming signals (as appropriate) includes functions such as input level controls, paging routing, automatic ducking of BGM audio, equalization (up to 9 parametric bands per amplifier channel), signal delay, and IED's patented technology for ambient analysis based automatic level control.

The T9116 Mainframe requires 2 rack units (RUs) of space or 3.5" of vertical space in a 19" equipment rack/cabinet. All cooling is back to front, so no additional vertical space is required in the rack for cooling. Local program or BGM inputs are provided on the back via plug-in lugless compression-type screw terminals. The Mainframe also is compatible with optional collector units such as the T9032NS Ambient Analysis Sensor Collector used to bring in IED 540S ambient sensor readings for the Ambient Analysis System computations. Another option is the T9032MT Monitor/Test Collector for additional monitor/test points. These add-on options are linked via the Ethernet connection.

Audio signals come into the T9116 Mainframes either via the local analog program/BGM connections or via the Ethernet connection utilizing the CobraNet technology.

The T9116 Zone Output Processor utilizes the same signal processing firmware as the T9160 Integrated Power Amplifier Mainframe. The Zone Output Processor is used to provide output processing to external power amplifiers on a networked 500ACS system.

Model T9116L is the part numbers for 120VAC power source, and Models T9116H is the part number for 240VAC power source.





Figure 1 - T9116 Digital Signal Processing Mainframe
Front View



Figure 2 - T9116 Digital Signal Processing Mainframe
Rear View

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SPECIFICATIONS

CAPACITIES

- 1. Maximum Number of local Program/BGM Inputs 16
- 2. Maximum Number of Paging Zones Assignable to Frame 16

CONNECTORS

- 1. Program/Background Music Inputs. 16
plug-in lugless compression-type screw terminals
- 2. Ethernet
 - Network Audio 2 - 100Base-T modular-8 RJ-45
For redundant networks
 - Control 1 - 100Base-T modular-8 RJ-45
- 3. Test Signal Out, Test In, Monitor Out and Monitor In 4
plug-in lugless compression-type screw terminals
- 4. Aux Line Level Outputs, 1A - 6A 6
plug-in lugless compression-type screw terminals
- 5. AC Power Cord
 - T9116L for 120VAC Operation (1) Belden/Volex 17250
 - T9116H for 240VAC Operation (1) Belden/Volex 17850

DIGITAL SIGNAL PROCESSING FUNCTIONS

- 1. Level Controls
 - T9116 16 Program, 16 BGM,
16 Overall Channel Levels
- 5. Built-in Testing
 - Automated multi-frequency and 20kHz testing of all channels

ELECTRICAL

All of the following specifications apply with program input via the network (CobraNet®), or with direct inputs to the power amplifier.

- 1. Frequency Response ±0.2 dB
20 Hz - 20 kHz
- 2. Total Harmonic Distortion. THD. <0.01%
20 Hz - 20 kHz
- 3. Signal-to-Noise Ratio, S/N >93 dB
22 Hz - 22 kHz, weighted
- 4. Maximum Input. +14 dBu
- 5. Maximum Output. +14 dBu

ELECTRICAL (continued)

- 6. Gain
 - Via the network Unity
 - Direct Input. 25 dB, Max
 - Background Music. 25 dB, Max



7. Analog-to-Digital Converter, A/D.	24 bit
8. Digital-to-Analog Converter, D/A.	24 bit
9. Internal processing.	32-bit, floating point
10. Sample Rate.	48 k
11. Latency	<1 ms
12. Crosstalk	below -75 dB
f = 2 kHz	

AC POWER REQUIREMENTS

1. Quiescent power	83 W
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MECHANICAL

1. Size, overall	
Width, with ears	(48.3 cm) 19"
Height.	(8.89 cm) 3.5"
Depth	(43.2 cm) 17"
2. Mounting Depth (rack depth)	(44.2 cm) 17.4"
for proper fan operation add a minimum of 2" (5.1 cm) clearance	
3. Weight	
T9116 with supplied rack ears	(5.44 kg) 12.0 lbs
Extra rear rack ears.	(0.68 kg) 1.5 lbs
4. Cooling fans	1
For digital electronics	
5. Mounting Ear Location Options	3
front, rear, bottom	

ENVIRONMENTAL

1. Operating Temperature Range.	(+32 °F - +122 °F) 0 °C - +50 °C
Applicable for typical voice paging and background music applications.	
2. Storage Temperature Range	(-40 °F - +158 °F) -40 °C - +70 °C

SUPPORT EQUIPMENT OPTIONS

Below are optional units that may be ordered to work with and extend the capabilities of this mainframe.

1. T9032NS Ambient Sensor Collector
2. T0516BGM Background Music Hub
3. T9032MT Monitor/Test Collector
- For additional external monitor/test points
4. T9032LVIO Logic-Voltage I/O Collector
5. T9016RY 16-Channel Relay Interface
6. T9040NLR 16-Ch Noise, 16-Ch Logic/Voltage, 8-Ch Relay Interface

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