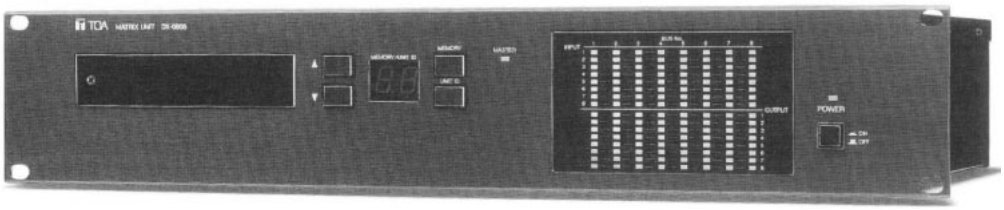
DACsys II SERIES

DIGITAL AUDIO CONTROL SYSTEM

DX-0808



DX-0808 MATRIX UNIT

DESCRIPTION

The DACsys II DX-0808 is an 8-by-8, digitally controlled, analog audio matrix. It is designed to provide highly flexible routing, mixing, distribution and level control of audio signals for a wide variety of applications including divisible hotel banquet/meeting rooms, performing arts centers, houses of worship, sports facilities, theaters, and recording/ production studios. The TOA DX-0808 is a full mixing matrix: any input or combination of inputs can be mixed and routed to any output or combination of outputs. A single DX-0808 provides eight inputs that are assigned to eight input mixing buses using a 64 point switching matrix. Each of the input mixing buses is assigned to eight output mixing buses through a 64 point level control matrix. The eight output buses feed the eight outputs. Units may be linked together in groups (max 4 per group) to provide additional inputs and outputs to the 8 x 8 bus structure. Each unit, or a system comprised of up to 30 units, is digitally controlled using an intuitive, user friendly, graphic PC interface. The software allows easy access and changes to the matrix configuration to meet almost any system requirement. In addition it provides off-line editing and data file storage of set up commands, which can be easily downloaded to each device in a system. Different mixing bus assignments and level settings can also be easily stored in and recalled from each device's 16 non-volatile memories.

The hardware is highly space efficient and is designed to prevent any unauthorized changes to the processing via multiple levels of security. By using units either singly or linked in multiples, matrixing for systems of almost any size or configuration can be easily designed, installed and set-up for the desired configuration. The systems designer who experiences the power and flexibility of DACsys II will discover a new generation of products for set up and adjustment of audio systems.

FEATURES

1. Digitally controlled analog matrix for routing, mixing and distribution of audio signals.
2. Completely analog audio circuits with 8 inputs and 8 outputs.
3. Two 8 x 8 mixing bus matrices: 64 point switching matrix for the inputs and a 64 point level controlled matrix for the outputs.
4. Electronically balanced inputs and outputs.
5. All bus assignments and level settings are made using the PC control software.
6. Input and output channels are expandable by linking the mix buses of up to four units.
7. Up to 30 units may be used in a system controlled by one PC.
8. Individualized selection of signal flow and level control as needed for your unique system requirements.
9. 16 on-board memories for storing and recalling different parameter settings as presets.
10. Remote control of memory presets using a PC or momentary switch contacts.
11. Logic outputs of memory status for lamp feedback and controlling other equipment.

DACsys II SERIES PRODUCTS

DP-0202 Digital Signal Processing Unit (2 in/2 out)
DP-0204 Digital Signal Processing Unit (2 in/4 out)
DX-0808 Routing and Level Control Matrix Unit
PC Control Software (Included with each product)

TOA's DACsys II is a series of computer-controlled products utilizing the latest technologies in digital signal processing and control to enhance and improve audio system designs, performance and operation.

TOA

LINKED INPUT/OUTPUT CONFIGURATIONS

8 in/8 input bus/8 output bus/8 out. (1 DX-0808)
16 in/8 input bus/8 output bus/16 out. (2 DX-0808)
24 in/8 input bus/8 output bus/24 out. (3 DX-0808)
32 in/8 input bus/8 output bus/32 out. (4 DX-0808)

OTHER FEATURES

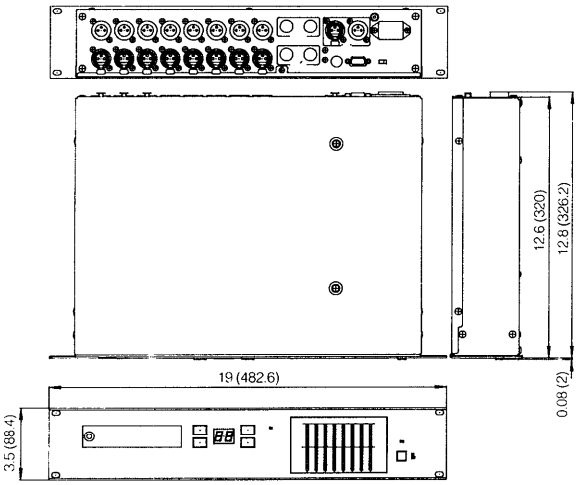
- System Lock Functions Including Password Protection
- Muting of Inputs and Outputs.
- Storage of 16 Presets in Memory.
- 128 Point Front Panel Display of Input and Output Bus Assignments.
- Preset Memory Number Indicator.
- PC Communications Using RS-485 and RS-232C.

DACsys II SERIES PC CONTROL SOFTWARE

FEATURES

1. Single software program controls all DACsys II products.
2. Sets configurations and parameters of up to 30 units in real time.
3. Configurations and memory presets can be designed off-line in the office for later downloading.
4. Superb, user friendly, graphic displays.
5. Easy access to each processing function with graphic, simultaneous display of all parameter settings.
6. Display of frequency/phase response for each filter set and for each output channel for DSP processors.
7. Unlimited storage of signal-flow configuration and signal processing parameter settings of each device in data files on hard or floppy disks for archiving and downloading to the hardware units.

APPEARANCE AND DIMENSIONAL DIAGRAMS



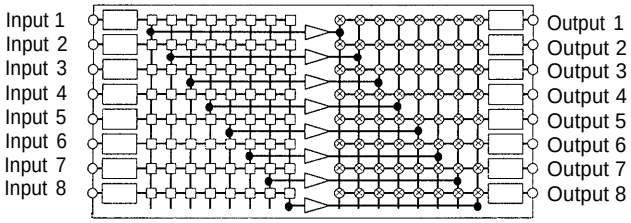
Unit: in. (mm)

OPTION
YA-8
Bus Link Cable

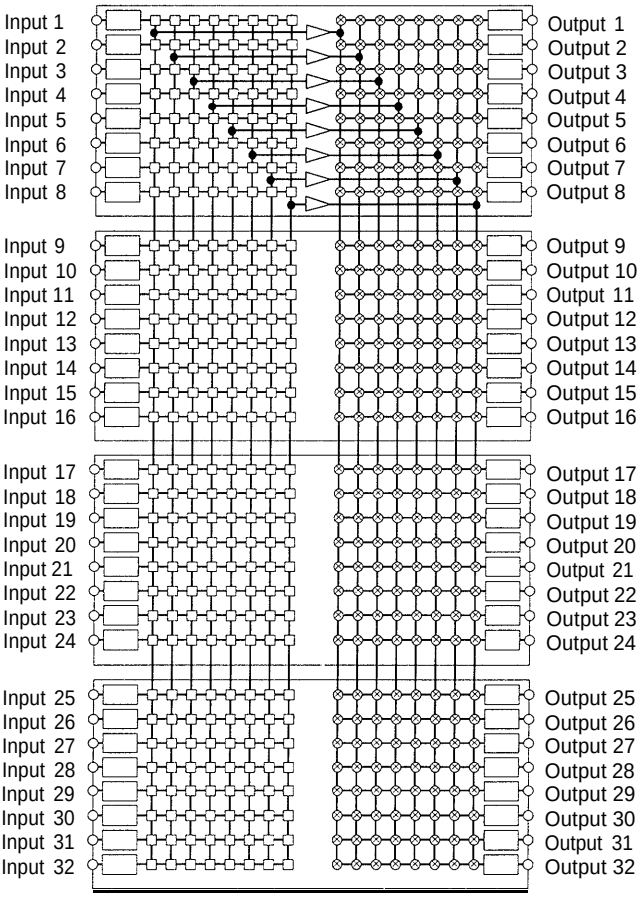
- 1m (40-inch) long.
- 8P DIN plug.

BLOCK DIAGRAM

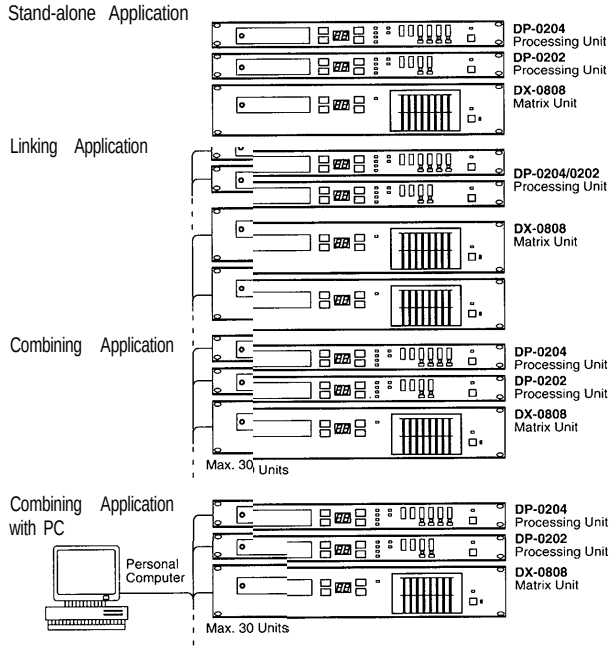
Single



Cascade 4



EXAMPLE OF SYSTEM APPLICATIONS



SPECIFICATIONS

Model No.	**DX-0808 Matrix Unit**
Performance	
Frequency Response	20Hz to 20kHz, +0.5dB, -2.0dB
Total Harmonic Distortion	Less than 0.05% at 1kHz. +4dB*
Hum and Noise	Less than -86dB*, 20Hz to 20kHz, fully assigned
Crosstalk	Less than -70dB at 1kHz
Input and Output	
Input	+4dB* (Maximum +24dB*), 10k ohms, Electronically balanced, XLR-3-31 type connector
Output	+4dB* (Maximum +24dB*), 600 ohms, Electronically balanced, XLR-3-32 type connector
Signal Matrix Configuration	8 input, 8 input bus, 8 output bus, 8 output
Mixing Configuration	Programmable
Inputs to Input Bus	8 x 8 switch matrix, expandable to 32 x 8 with maximum of 4 DX-0808 linked
Output Bus to Output	8 x 8 level controlled matrix, expandable to 8 x 32 with maximum of 4 DX-0808 linked
Total Signal Cross Points	128
Level Control	0dB to -60dB/-∞, 1dB steps
Mute	Individual input and output mute, all mute
Other Functions	
Preset Memories	16 presets
Security	
Hardware	3 status switch settings; Off: All functions available 1: Lock all but memory selection 2: Lock all function
Software	Password protected, System lock, Edit lock
Control	
Communication Ports Connectors	RS-232C, RS-485 (Switchable) XLR-3-31 type, RS-485 input XLR-3-32 type, RS-485 output Two DB9 female, RS-232C (Front and rear panel)
Programming Software System	Requirement
Hardware	PC compatible, 80386 processor or higher. Math Co-processor recommended for the frequency and phase response graphic display, 4MB of memory or higher, 1 MB HDD space, VGA color monitor recommended, Mouse recommended
Software	Windows 3.1 or later
Memory Input/Output	
Connector	8 pin, Mini DIN
Function	Memory control input and memory status output
Panel Functions (Front panel)	
Memory Selection	Up/down keys
ID Number Setting	Momentary slide switch and up/down keys
Displays	2-digit, 7-segment LED display, red, memory number and unit number, switchable, up/down key selection
Operating Status LEDs	MASTER (green)
Matrix Assignment Display	
Input Mixing Bus	64 dots LED (green)
Output Dividing Bus	64 dots LED (red)
Mute Switches	
Power Switch	Power ON/OFF w/LED (green)
Panel Functions (Rear panel)	
Input Mixing Bus Connector	2-8 pin DIN connector
Output Dividing Bus Connector	2-8 pin DIN connector
Ground Lift Switch	Normal/lift
Power Inlet	3 pin, IEC-320, standard
Power	
Power Requirement	AC 100V to AC240V, 50/60Hz
Power Consumption	40 watts maximum
Physical	
Dimensions	19"(W) x 3.5"(H) x 12.9"(D) (483mm x 88.4mm x 328mm), EIA 2 rack unit size
Color	Black, anodized aluminum (Front panel), black, painted steel (Chassis)
Weight	13.21bs. (6kg)
Accessories	(1) AC Power Cord (1) Tamper Proof Screw for front security cover (Replaceable with a standard Phillips head screw) (2) Instruction Manuals (1-hardware, 1-software) (1) Software Diskette (2HD, 3.5")

* NOTE: 0dB=0.775V RMS

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The unit shall be a digitally controlled, analog audio matrix with 8 inputs and 8 outputs and 8 + 8 mixing buses. The 8 inputs shall be assignable to any combination of 8 input mixing buses through a 64 point switching matrix. The summed output of each input bus shall be assignable to any combination of the 8 output mixing buses through a 64 point level controlled matrix. Units shall provide capability to expand the number of inputs and/or outputs by linking the mixing buses together on multiple units. There shall be 16 non-volatile memory presets for storage and recall of different configurations and level settings. The unit shall incorporate all solid state circuitry.

Nominal analog input sensitivity shall be: 1.23V (maximum +24dB), 10k ohm input impedance, electronically balanced. Gain shall be 0dB from any input to output for any assignment combination with all level controls at maximum. Hum and noise shall be less than -86dB, 20Hz--20kHz unweighted (all assignments made). Frequency response shall be +0.5dB, -2dB (ref 1kHz) from 20Hz to 20kHz. Analog power outputs shall be nominal +4dBm (maximum +24dBm) into a 600 ohm load, electronically balanced, with less than 0.05% THD at 1kHz. Up to 4 units may be linked together using a special input/output bus connection to increase the number of inputs and/or outputs, without contributing significantly to either hum or noise.

All assignments and level controls shall be configured, programmed and operated by external control signals through the RS-232C or RS-485 ports on the unit. The RS-485 connection shall provide the means to network up to 30 matrix units together, or up to 30 units in any combination of matrices and/or signal processors. All 30 units are then controlled by the one external data connection. Memory presets are available and can be made globally for all units by changing the preset on the designated master unit. These presets are also accessible via remote contact closures. The RS-232C port shall allow external control of a single unit.

Computer software for a PC shall be provided that generates the control signals necessary to configure, program and operate the unit. The software shall be a graphical Windows-based program that allows downloading and uploading of assignment configurations and level control settings and has the capability to store settings as binary files. The program shall provide graphical representations showing the assignment configuration, along with dialog boxes for level control settings and listings of units in the system as well as listings of memory presets. The software shall provide functional lock-outs under password protection to prevent unauthorized changes to configurations and settings.

The front panel shall have the following indicators and controls: MASTER mode "on" when the unit ID number = 1; a 2-digit by 7-segment LED display to show the memory preset number or the unit's system identification number; "up/down" buttons to select a memory preset or unit ID number; a MEMORY switch to recall the selected preset; a UNIT ID to display the unit's ID number; and a POWER "on/off" switch. Set-up controls shall be concealed in a pocket behind a small security cover and consist of: a PORT switch to select RS-232C or RS-485 communications; a 3-position hardware LOCK switch (off, lock all but memory switching, lock all functions); a momentary SET UNIT ID No. enable switch; and an RS-232C nine pin D-type connector. There shall be an 8 x 8-point LED display showing "on/off" status for the input mixing bus assignments. A similar display shall show the "on/off" status for the output mixing bus assignments.

The rear panel shall have the following: (8) XLR-F jacks for the inputs; (8) XLR-M jacks for the outputs; an RS-232C 9-pin D-type connector; an XLR-F jack for RS-485 "in"; an XLR-M jack for RS-485 "out"; and a GND lift switch to disconnect the audio from chassis ground. There shall also be an 8-pin mini-DIN type connector for memory control input using maintained contact switches and TTL level memory status output. (4) 8-pin mini DIN type connectors (2 x INPUT BUS and 2 x OUTPUT BUS) shall be provided for linking the input and output mixing buses on multiple units for input and output expansion. Internal dip switches shalt be used to configure the units for use in expansion mode.

The AC line mains shall be 50/60Hz, 100V-240V, and power consumption shall be 40W. The matrix unit shall be enclosed in a durable, painted, black, 0.03 in. (0.8mm) steel enclosure mechanically reinforced by a 0.08 in. (2.0mm) thick, black anodized, aluminum front panel. Overall dimensions shall be 19.0W x 3.5H x 12.9D in. (483W x 88.4H x 328Dmm). Weight shall be 13.2lbs. (6kg). Standard E.I.A. equipment rack mounting shall be included.

The matrix unit shall be the TOA model DX-0808.

NOTE: 0dB = 0.775V RMS

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*Specifications are subject to change without notice.

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