

## PS-8810 Digital Signal Processor



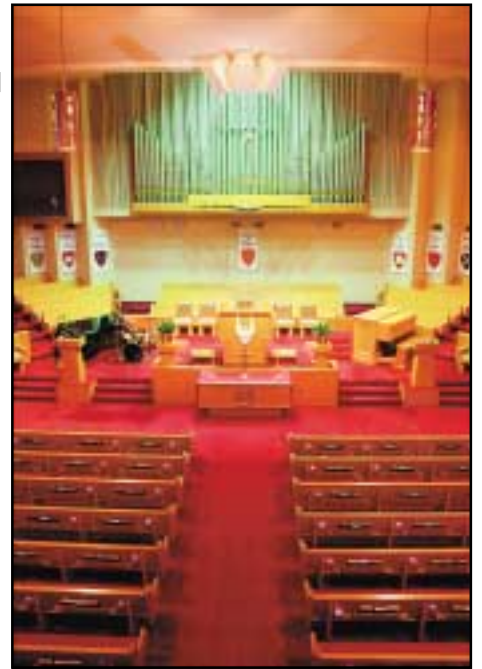
### Sports Facilities

With an staggering amount of signal processing and routing, the PS-8810 offers the ability to use one common platform to handle all of your system needs.



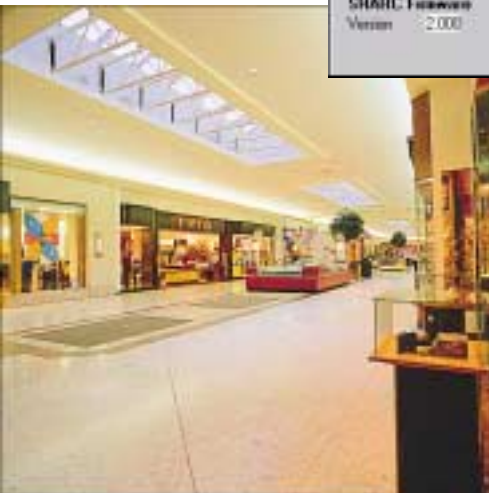
### Churches/Auditoriums

With full auto-mixing, DSP signal processing and external controls, the PS-8810 gives the user the control needed without allowing all system parameters to be accessible.



### Restaurants/Bars/ Retail

The PS-8810 can accomodate the audio system requirements of the most sophisticated dining needs to store foreground, background and paging needs.



### Public Transportation

With ducking priority, ambient level compensation and event scheduling, the PS-8810 is perfectly suited for small and large transportation facilities.

**Retail Environments, Stadia  
Auditoria, Houses of Worship,  
Mass Transit Stations**

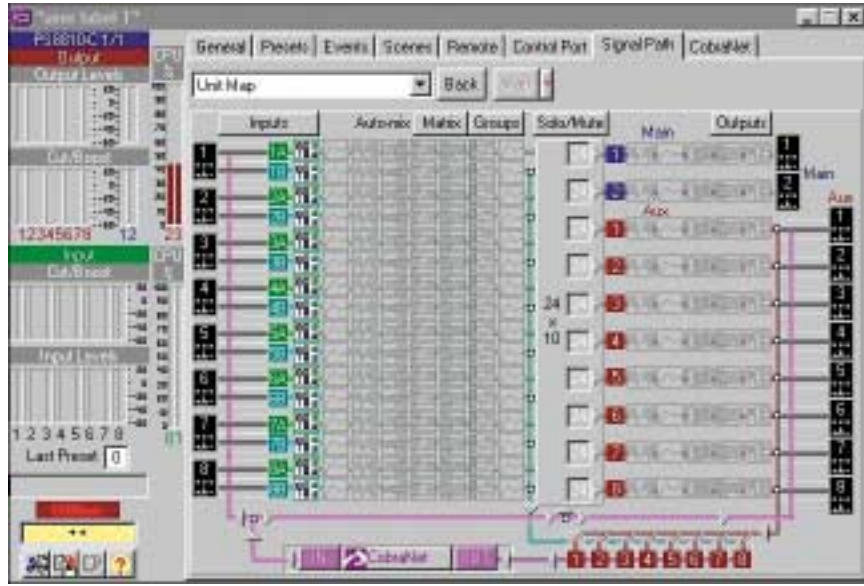


# ProSys PS-8810 Fixed-Path Digital Signal Processor

The ProSys PS-8810 is appropriate for a comprehensive range of installations, from major sports facilities to even the smallest houses of worship, the PS-8810 can fill the need. It incorporates 32 user-definable Presets that can be selected from the front panel, IQ for Windows software, switch closure, or can be scheduled from its internal real-time clock/calendar. You can easily configure the PS-8810 for automatic room combining as well as 'simple to use' wall station controls.

## PS-8810 Features:

- ◆ Fixed signal path
- ◆ 256 EQ filters
- ◆ 32 Presets
- ◆ 32 Scenes
- ◆ 32 Automix groups
- ◆ 32 Control ports
- ◆ Events scheduler
- ◆ Infra-red control port
- ◆ CobraNet™ option
- ◆ IQ integration
- ◆ Auto levelling
- ◆ Ambient levelling
- ◆ Phase inversion
- ◆ Universal power supply
- ◆ Front & rear RS232 ports



PS8810 Signal Routing

Installation applications for audio systems vary in their complexity, and many require sophisticated and flexible signal paths, while others will require only a relatively simple fixed form processing path. The ProSys PS-8810 was designed specifically for the latter requirement where system designers require certain types of signal processing in an easily matrixable format. System design time is reduced because the DSP building blocks are already placed in the signal path ready to be configured. Once each signal has been routed or mixed, you're ready to go!



## CobraNet™ The PS-8810C

### Audio networking expansion option

ProSys audio channels can be networked using a CobraNet™ card, available as an option or prefitted as the PS-8810C. Bundles of audio channels can be routed to further units and, can also be processed along with a unit's own channels. This allows the PS-8810C to be integrated and share audio with other CobraNet™ devices.



## Integration with Crown Amplifier Systems

ProSys PS-8810 is set up and controlled using IQ for Windows software. This also supports Crown amplifiers so full system control and integration of processing and amplification is readily achievable via the IQ Bus. Your PC can monitor and control both the amplifier status and signal processing/mixing.

For more details on the IQ system, visit [www.iqaudiosystems.com](http://www.iqaudiosystems.com)

## The Signal Path

There are 8 analogue inputs with adjustable mic, line gain and mic phantom power on the PS-8810. Each input is routed internally into two identical fixed signal paths, each of which may be matrixed to any output. If required, an input may be routed to an output exclusively.

There are 10 analogue outputs, 2 MAIN outputs and 8 AUX outputs. The AUX outputs normally take their feed from the input/output matrix, but when used with the CobraNet™ option may also take their feed from the 8 CobraNet™ inputs. Similarly the CobraNet™ outputs may take their feed from the AUX outputs or from the post-DSP input path B channel, giving great flexibility in signal routing.

## Signal Processing Elements

Each *Input* path (A and B) has programmable DSP elements for:  
**EQ Filters – Delay – Gate – Autoleveller – Compressor – Automixer**

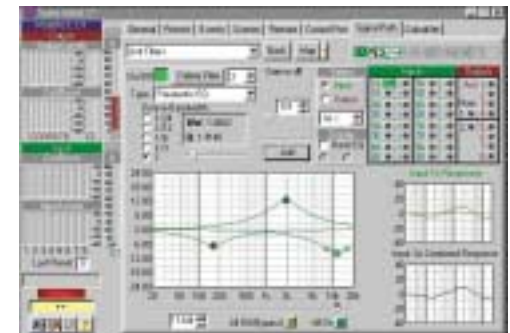
Each of these elements may be enabled or disabled, depending upon the need, and parameters adjusted easily. There are an impressive 256 EQ filters available in the PS-8810, which can be assigned to one of seven different filter types. These include: low-pass crossover (1<sup>st</sup>- 4<sup>th</sup> order), high-pass crossover (1<sup>st</sup>- 4<sup>th</sup> order), parametric equalisation (2<sup>nd</sup> order), low-pass equalisation (2<sup>nd</sup> order), high-pass equalisation (2<sup>nd</sup> order), low-pass shelving equalisation (1<sup>st</sup> order) and high-pass shelving equalisation (1<sup>st</sup> order).

Automixing functions include 'NOM (Number of Open Mics) Attenuation', 'Priority Ducking' and 'Adaptive Gating' processing. Mutes and signal phase invert functions precede each input processing path.

Each *Output* path has signal processing elements as follows:  
**Delay – EQ Filter – Ambient Leveller – Limiter – Mute/Inverter**

Again, any element may be individually adjusted and enabled/disabled. The limiters are particularly useful to provide system headroom overload protection.

Input Delay Configuration



EQ Filter Configuration

## Presets & Scenes

On finalising the configuration and routing of your audio signals, store the design as a **Preset**. There are 32 Presets available in the PS-8810 that may be recalled at any time via contact closure from the control port, infra red remote or as a scheduled 'Event'. A further feature is the 'segue' function that allows elegant level transitions between Presets.

To set up minor changes in dsp settings, i.e. equaliser and delay parameter values for a different venue function, you can store these adjustments as **Scenes**, these also may be recalled by the methods described above.

## Event Scheduling

The internal **Event Scheduler** is a sophisticated time control system integral to the PS-8810 that enables Preset or Scene recall at either a given time, or at different times according to a schedule you determine. This can be accomplished even without the PC connected and the internal clock in the ProSys can function for up to 45 days without power.

### DSP PROCESSING POWER

Multiple 32-bit floating point processors enable up to 256 filters, full automixing, auto levelling, signal routing, as well as full ambient sensing and compensation.

### 24-BIT CONVERTERS

24-bit, high quality A to D and D to A converters yield a dynamic range in excess of 100dB for superior sound quality.

### METERS

The LED 'ladder' is assignable to display signal levels or the input gate status of the PS-8810's audio channels.



**Front Panel Controls:** Front panel switches select IQ Address, Baud Rate, factory default Preset (P00), and any of 32 user-defined presets (P01-P32).



**Rear Panel Controls:** A 3-position selector switch (mic/line/phantom) and a calibrated gain control for each input.

### IQ INTERFACE

The PS-8810 can also function as an IQ 'interface' for other compatible IQ components.

### BARRIER CONNECTORS

Removable barrier connectors allow for quick, simple and solderless system connections - useful for signal test points too.

### EIGHT INPUTS

The PS-8810's eight inputs have a variable input trim and, are individually assignable to either mic, mic with phantom powering, or line level.

## Control Options

### ◆ Standalone Hardware

Once you have programmed the PS-8810, you can disconnect the PC and leave the unit to perform it's duties as a standalone device.

### ◆ Online PC control

With a PC connected to the PS-8810 and running the included IQ Win software, you then have full control over the PS-8810's parameters for system setup and then later, as a computer based online control system.

### ◆ Infra-red control

The PS-8810 can be controlled from an infrared hand-held remote. Chosen parameters can be accessed in this way to give your users a simple control interface for non-technical operators.

### ◆ Control Port

A multi-function 'Control Port' implements analog and digital interfacing for control and monitoring by external circuits. The PS-8810 has 16 control inputs and 16 control outputs along with power supply outputs and common ground connections. Switches or faders may be applied to the inputs to change presets or individual DSP parameters. Additionally, 8 of the control inputs can monitor both digital or analogue signals. The control outputs can illuminate LEDs and perform other logic output tasks.

### UNIVERSAL VOLTAGE POWER SUPPLY

Auto sensing power supply, 100-240VAC, 50/60Hz, for worldwide compatibility.

All ProSys PS-8810 parameters are backed up via FLASH memory. System configurations may be stored in any of the thirty-two system Presets for recall from the front panel controls, switch closure, scheduled from the internal real-time clock/calendar or using IQ for Windows software.

**The ProSys PS-8810's many integral features lead to simple sound system design from a totally self-contained unit, ready to program for a multitude of installation applications.**



# PS-8810 TECHNICAL SPECIFICATIONS

## Front Panel Displays:

A green 'POWER' indicator shows that the unit is plugged in and AC power is being supplied.  
An amber 'DATA' indicator flashes when commands addressed to the PS-8810 are received.  
A green 'IQ INTERFACE' indicator lights when the PS-8810 is being used as system interface.  
A three-digit LED digital display indicates the presently selected preset number, IQ address and baud rate and also indicates when a parameter has been stored in flash memory and, when any parameter is varied from its value within the currently selected preset.  
A sixteen-segment LED display matrix can be set to three different operating modes: Level Meter, Input Gate Status, and Infinity Pattern (test).

## Audio Inputs and Outputs:

Connectors: 3-pin male removable barrier block connectors, Euro-style cable connector supplied  
Phantom Power Voltage: +24VDC at 10mA  
Input Gain Range: +20dB to -12dB  
Max. Input Level: +32dBu (line) or +7dBu (mic)  
Input Impedance: 20 kohms balanced, 10 kohms unbalanced  
Digital Sampling: 24bit, 48kHz  
Dynamic Range: >100dB (A-weighted, 20Hz-20KHz)  
Frequency Response:  $\pm 0.5$ dB, 20Hz-20kHz  
Common Mode Rejection: 50dB at 60Hz (typical)  
Crosstalk: >80dB at 10kHz  
Total Harmonic Distortion: <0.05% THD + N (1kHz, 0dBu)  
Output Impedance: 100ohms balanced, 50ohms unbalanced  
Max. Output Level: +20dBu

## RS232:

Connector: DB9F computer interface for both component and interface modes  
Data Communication Rate: Selectable to 19.2K, 38.4K, 57.6K, or 115.2K Baud

## IQ Bus:

Connectors: RJ-45 for input/output, RJ-45 for daisy output  
Data Format: Serial, binary, asynchronous; 1 start bit; 1 stop bit; 8 data bits; no parity  
Data Communication Rate: 38.4K Baud  
Data Format: Serial, binary, asynchronous; 1 start bit; 1 stop bit; 8 data bits; no parity  
Interface Type: Optically isolated 20mA current loop  
Operation: Half-duplex transmission  
Distance: Variable from 200 to 3000 feet (61 to 914 meters), depending upon wire capacitance  
Typically 1000 feet (305 meters) using shielded twisted-pair wire, #26 AWG or larger  
Extendable with an IQ Repeater

## Control Port:

Connector: DB37M for analog inputs, digital inputs, digital outputs, +5VDC, +10VDC and Ground  
Power Supply: +5VDC and +10VDC Outputs are provided. The total output current is limited to 1A  
Outputs:  
Logic Low: <0.1V  
Logic High: 10V (via internal pull-up) Output Current is limited to 10mA max. per pin  
Inputs:  
Input Impedance: >50kohm  
Logic Low: <0.5V  
Logic High: >5V  
Analogue Range: 0 to 10V (for inputs 9-16 only)  
Max. Input Voltage: 25V

## Protection:

The unit will continue to function with the last commands received if communication is lost.

## AC Power:

Connector: IEC320 connector for AC power cord  
Power Requirements: 100VAC to 240VAC, 24VA nominal

## Mechanical Installation:

Weight: 13 pounds, 4 ounces (6.1 kg)  
Dimensions: 19 inch (483cm) standard rack mount width (EIA RS-310-B), 16-inch (40.6-cm) depth behind mounting surface, and 2 RU high (3.5-inches; 8.9-cm)

*BSS Audio reserves the right to change product features and specifications without notice in the interests of product development. September 2001*

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