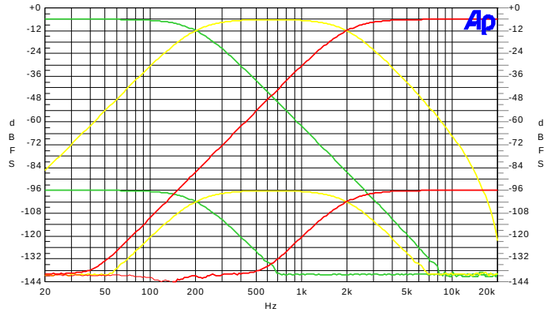
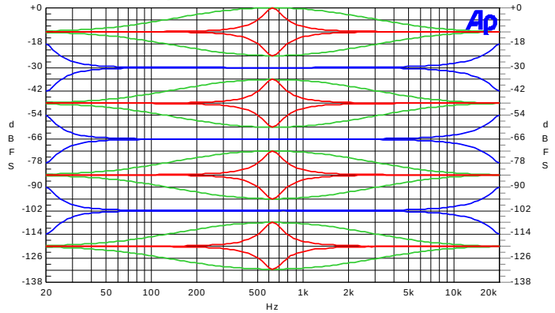
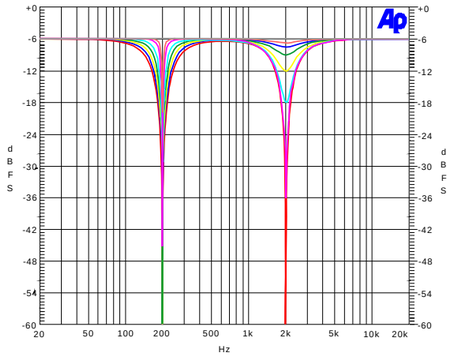
Linkwitz-Riley 3-Way Crossover



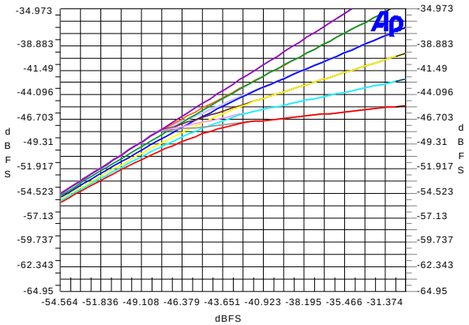
Parametric Equalizer (multi-level input analysis)



Notch Filter (multi-cut & Q)



Compressor (multi-ratio & knee)



MERLIN™
INTEGRATED SIGNAL PROCESSING

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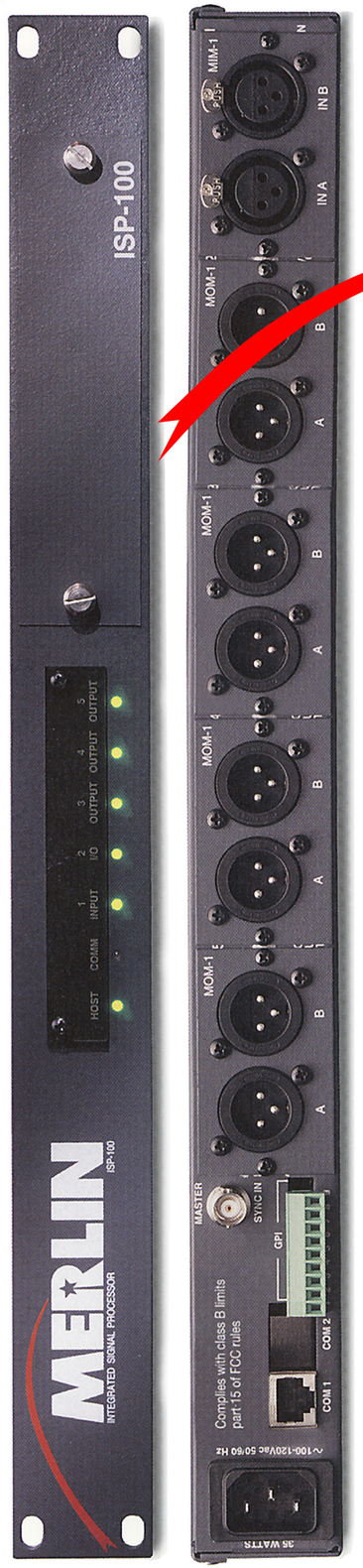
Part of the TELEX® product family
Communications, Inc.

ISP-100 SPECIFICATIONS

General Specifications	
Analog Input/Output Modules	Modular, 2-Channel, 24-bit Converters
Digital Input/Output Modules	Modular, 2-in x 2-out, AES/EBU (S/PDIF)
Noise Floor	-107 dBu, typical
THD+N	0.003%, typical (0.002% @ 1 kHz)
Inherent Delay	Less than 2 msec, analog to analog
Compressor/Limiter Components	
Threshold	0 dB to -60 dB
Attack Time	20 usec to 50 msec
Release Time	20 usec to 5 sec
Knee Selection	Hard/Soft
Detection Window	20 usec to 5 sec
Crest Factor Sensitivity	average to peak
Compression Ratio	1.2 to 24.0
Sidechain Channel Selection	Available; refer to QuickBUILD
Delay Components	
Maximum Delay Time	Topology dependent, typically 650 msec
Adjustment Increments	20 usec
Gate Components	
Threshold	0 dB to -60 dB
Attack Time	20 usec to 50 msec
Release Time	20 usec to 5 sec
Attenuation	0 dB to -100 dB
Detection Window	20 usec to 5 sec
Key Channel Selection	Available; refer to QuickBUILD
Crossovers, 2-Way, 3-Way, 4-Way	
Bandpass Gain per Band	0 dB to -96 dB
Filter Types	Bessel, Butterworth, Linkwitz-Riley
Slopes	
Bessel/Butterworth	6 dB/oct, 12 dB/oct, 18 dB/oct, 24 dB/oct
Linkwitz-Riley	12 dB/oct, 24 dB/oct
Cutoff Frequency (all bands)	20 Hz to 20 kHz
Filter Bank Components	
Available Filter Types	Low pass, high pass, low shelf, high shelf, notch, parametric EQ, peaked high pass, all pass
Filter Bank Gain Trim	12 dB to -12 dB
Slopes (stacked filters provide greater slopes)	6 dB/oct, 12 dB/oct
Center/Corner Frequencies	20 Hz to 20 kHz
Boost/Cut	12 dB to -12 dB (notch: 0 dB to -50 dB)
Bandwidth (BW)	1/12 to 1 octave

(PEQ BW = 3 dB from peak; Notch BW = 3 dB down from unaffected signal)

Part number 42-02-053106



MERLIN™
INTEGRATED SIGNAL PROCESSING

ISP-100

Integrated Signal Processor

A hardware/software system
putting you in control with

POWERFUL
Performance

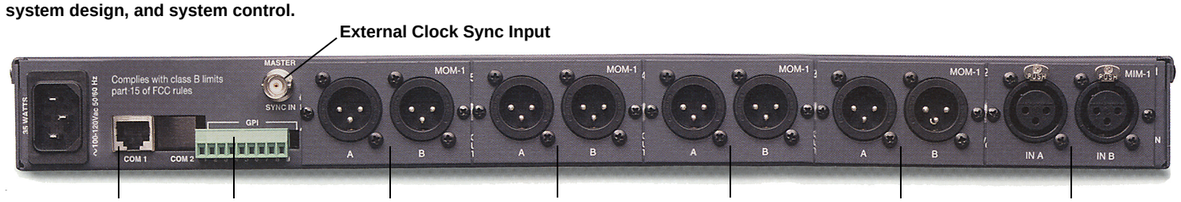
CONFIGURABLE
Flexibility

INTUITIVE
Simplicity

CONFIGURABLE

Flexibility

ISP-100 hardware and software combine to provide three primary means of system configurability, leaving you in control of inputs/outputs, system design, and system control.



Rear RS232 Connection (RJ45) | **General Purpose Input (GPI)** | **Slot 5 Output Module** | **Slot 4 Output Module** | **Slot 3 Output Module** | **Slot 2 Input or Output Module** | **Slot 1 Input Module**

In addition to the built in flexibility of the ISP-100 is the compatibility with major third party serial network such as AMX®, allowing you to take advantage of the many options available through these networks, such as remote controls, touch screens, zoning, etc.

Modularity

The ISP-100 hardware design incorporates the use of modular inputs and outputs. It has five I/O bays for custom configurations to meet the needs of your project.

Analog and/or Digital modules in the same chassis

Input and output modules are stereo pairs, allowing any ISP-100 chassis to be set up as a 2-in x 2-out up to a 2-in x 8-out, or as a 4-in x 2-out up to a 4-in x 6-out. These inputs and outputs may be analog and/or digital in any combination conforming to the overall chassis bay configuration.

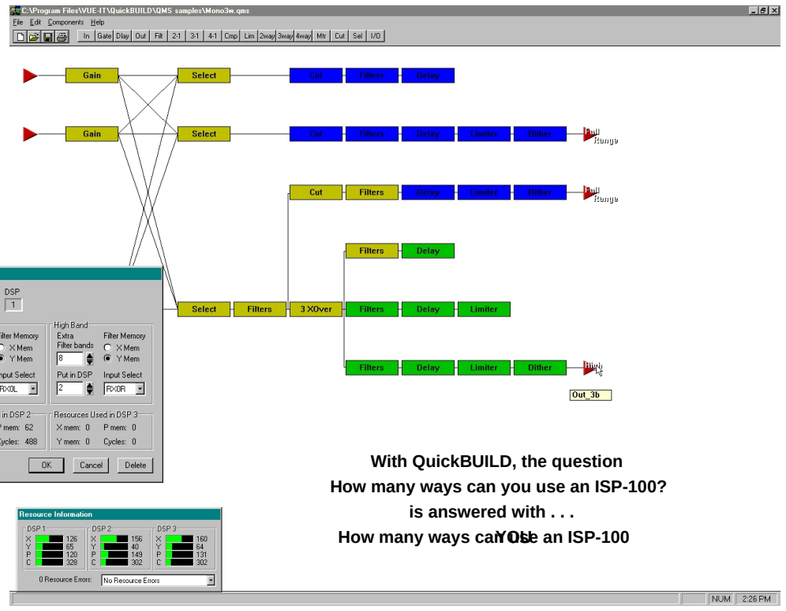
We offer an AES/EBU (S/PDIF) digital I/O module which incorporates two input and two output channels. This module can be used in any of the five chassis bays with function being determined by the bay in which it is installed. It can also be used in "pass through" mode providing sample rate conversion and synchronization for multiple units.

QuickBUILD

This software tool is used to create system signal path topologies (QuickMAPs) for use in the VUE-IT software.

QuickBUILD allows system designers to take advantage of the DSP power within the ISP-100 and "tweak" their system to maximum performance levels.

You can start with some of our basic sample topologies and revise to meet your needs, or start from scratch with your idea of the perfect sound system. QuickBUILD allows you to define it, design it, document it, test it, and the bottom line . . . Control.



Using QuickBUILD you control the signal and the processor

With QuickBUILD, the question How many ways can you use an ISP-100? is answered with . . . How many ways can YOU use an ISP-100

VUE-IT

This Virtual User Environment for ISP-100s was developed to provided system designers and installers the ability to take advantage of all of the positive aspects of using digital processing without having to accept the negative effects of long learning curves and unfamiliar component operation.

Designed with the "look and feel" of typical pro audio gear, the VUE-IT provides intuitive graphics with faders, knobs and buttons which respond as expected when clicked on with a mouse. We even added ballistics to our meters to make you feel comfortable viewing online.

INTUITIVE

Simplicity

What could be easier, select a system design, click on the components requiring adjustment, slide a fader, turn a knob, push a button; or take full advantage of the digital world and enter precise values for each setting.

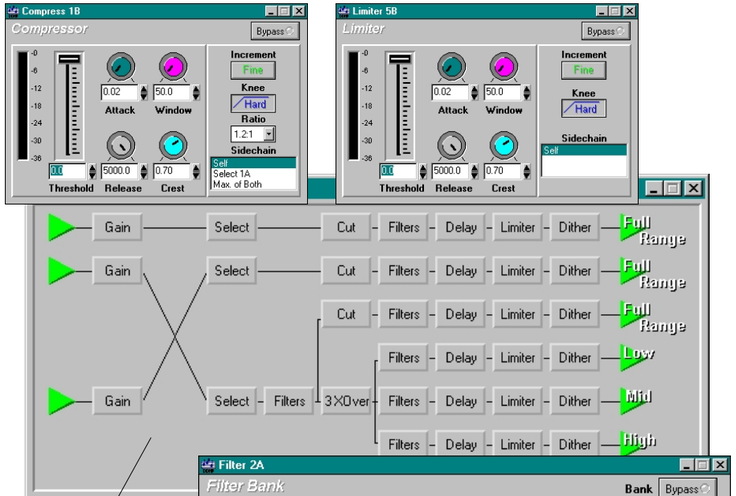
System designers can quickly create specific QuickMAPs for each project, ensuring less time in the field, as well as less opportunity for errors.

An entire system can be programmed in the office leaving more time to tweak on site. System installers can spend their time and attention on the more crucial aspects of the job, the sound.

Selections can be made from a set of factory supplied QuickMAPs or use the QuickBUILD software to design your own custom QuickMAP to fit your specific project needs. These system templates help maximize your design time by allowing you to focus on the critical issues, like meeting your clients schedule without giving up all your weekends.

Integration of operations and functions simplify the total audio system design. Eliminating components, cables and connectors minimizes potential noise and failures, while increasing overall system performance and integrity.

Similar Components, Similar Controls, Reduced Training Time



Simply click on a component along the QuickMAP and then make your adjustments. Online/Realtime operation without any annoying processor side effects.

A filter tool designed to let you know what your filters are doing with the flexibility and precision to do it right. Click and drag for frequency, amplitude and bandwidth or key in settings with 1/10 Hz and 1/10 dB precision. View amplitude or phase; use bandwidth or "Q"; choose which filter is where. Your choice, your control.

POWERFUL

Performance

A spec is only as good as it sounds. The transparency of the ISP-100 can not be adequately explained by specifications and statistics, however, we believe the way we sound on paper is met and exceeded by our live performance.

Currently online and providing solutions, both domestically and abroad, the ISP-100 is found in venues ranging from Houses of Worship, amusement parks, multi-purpose rooms and arenas, stadiums, rental systems, touring, etc.

Anywhere audio installations require professional level signal processing, the ISP-100 is providing cost-effective, high fidelity solutions to consultants and contractors demanding quality results.

Precision, security and repeatability typify just some of the advantages to the digital signal processing system incorporated within an ISP-100.

Review the ISP-100 numbers and performance graphs generated by the Audio Precision System II® equipment used to objectively evaluate our performance levels. Consider the trueness of algorithm response graphed even at input levels of -120 dB (i.e., PEQ graph).

The ISP-100 utilizes 24-bit data paths which eliminates truncating algorithms. This means the only major delimiting factors on fidelity are the input/output converters. Currently offering 24-bit A/D and D/A converters, along with AES/EBU digital input/output with precise sample rate conversion from 32 to 54 kHz to a stable 48 kHz, the ISP-100 takes full advantage of its DSP processing performance.

In addition, due to the wisdom and forethought of modular input/output design and downloaded operating systems, obsolescence is made less of a concern, since as technology allows we will continue to offer you the ability to upgrade without having to start from scratch.