Digital Virtual Processor:

Change your opinion: go for the best there is in digital, the DVP proud winner of the "Cool Stuff Award" at the NAB 2000

The first FFT processor

Radio World
Cool Stuff Award
2000

THE BEST OF THE TECHNOLOGY FOR YOU

FFT processing: a unique concept invented by IDT. More than a mere processor the DVP is a real host.

Signal processing commenced with analogue technology. When digital arrived sound processor manufacturers simply digitised each function. This approach is, purely and simply, absurd as it represents a mere copy of the limits inherent in analogue combined with those of the earlier generations of digital. The DVP has abandoned this concept for good and has developed "intelligent" processing based on the concept of integral signal analysis where each detail, density, attack, the envelope, the power of the signal is minutely dissected and analysed. The analysis is undertaken by FFT which then handles the processing. The DVP has put an end to the out-dated electrical mode and has opened the way to electro-frequential processing which, thanks to its predictive qualities, will never be taken by surprise.
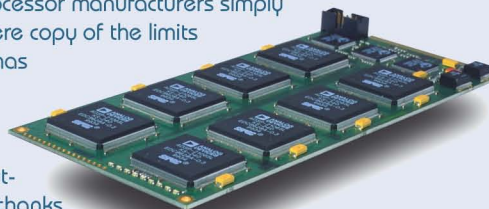
1 APP "One Advanced Point Processing"

A further innovation with the DVP. One Advanced Point Processing has put an end to the traditional cascade of functions. Your sound will, no longer have to suffer a whole series of operations, AGC, Compression, Limiting, one after the other. The ability of DVP to process the full bandwidth of the spectrum, in one go, means that, for the first time, a processor can protect the integrity of the sound. We call this revolutionary function 1 APP (1 Advanced Point Processing).
By purchasing a DVP you are making a sound, long term, investment. Your basic DVP version has been designed with expansion in mind: 7 internal extension slots which can house up to 66 SHARC DSPs and 3 external extension bays for future applications.

The DVP, simplicity, effectiveness and practicality

Simplicity: The DVP boasts a very high resolution LCD display which enables you to keep an eye on the work being done by your processor. What's more, you can use the DVP's display as a 60 point spectrum analyser or even as a density analyser with instantaneous display of the exact deviation.
Effectiveness: Given the plethora of functions available with the DVP you will, generally, access your processor via the control software. However the front panel of the DVP is equipped with "function" buttons giving access to the setting of the I/O levels, the loading of presets etc.
Practicality: With the DVP nothing is left to chance. A jack on the front of your processor lets you monitor the result of processing at different stages. Route the headphone monitor to compare the input and output of the FFT or listen to the difference before and after limiting.
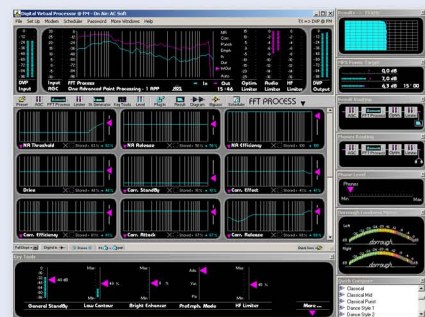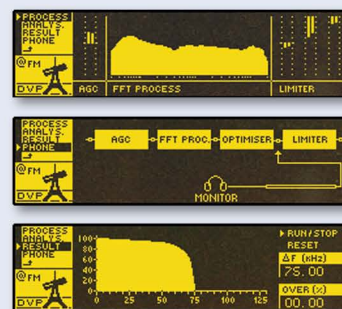
Software: your gateway to the heart of the DVP

When designing the control software of the DVP the IDT team did not content itself with placing a few buttons on a screen. Quite the opposite, in fact. Every effort has been made to make the interface attractive, transparent and interactive for your work on the sound to be as pleasant and easy as possible.
As far as display is concerned you have an FFT spectrum analyser which allows you to, simultaneously, view the input and output of your DVP. Adjusting the parameters has become child's play with the DVP's "Push Mode". The cursor of your mouse becomes a famous "Tower", with which you can design your own correction curve.
The users are unanimous; it is the most simple and interactive way ever invented.

Digital Virtual Processor:

The revolution of the FFT in the service of the sound

The first FFT processor

EVOLUTION II

Remote control by software

Introduction to the DVP

The **Digital Virtual Processor** is the result of the technological know-how of IDT, using Fast Fournier Transform, brought to aid of the specific needs of broadcasters. Working on an innovative technology the **DVP** is the first and only audio processor to work without bands, per se.

The **DVP** works on the signal as a whole analysing and allowing the processor to truly respect the signal.

Moreover, the **DVP** not only works at 96 kHz, sampling rate, but on a 40 bit floating point. The **DVP** from IDT allows all broadcasters to respect the sound while giving a final result that can give a loudness accompanied by brightness and clarity second to none.

Features

- AGC
- FFT Process
- Concept APC (Advanced Peak Control)®
- One APP
- HDS (High Definition System)
- Limiter
- Integrated system of measurement
- Scheduler
- Digital Stereo Coder
- Stereo Enhancer (optional).
- Multiplex limiter (respect of the standard ITU 412) (optional).
- Basic RDS / RDBS coder (optional).
- TX1, TX2, 19 kHz, Sub1, Sub2
- Analogues and digitales inputs
- AES / EBU I/O (32, 44.1, 48, 96 kHz), synchro AES I/O
- RS 232, TCP/IP ethernet, GPI

Driving the DVP

The DVP is supplied with a complete graphic interface which runs under Windows® 95, 98, 2000 and XP. It can be remote controlled via modem or ethernet TCP/IP (optional).

The advantages of the DVP

The Digital Virtual Processor is not just a simple processor. All you ever dreamt of, and more, can be found in the DVP which is an extremely powerful platform. A host of plug-ins are available, with more to come. New developments, upgrades, can be loaded by a visit to the web-site www.idt-fr.com

Your investment will be a sound investment.
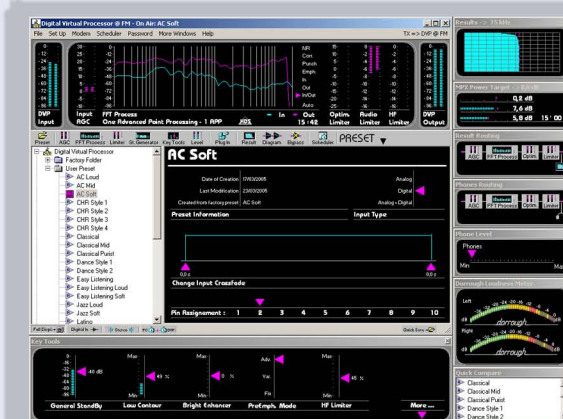
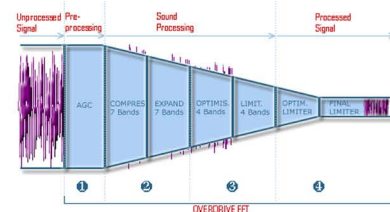| Standard INPUT	AGC	FFT PROCESS	APC 1 APP HDS CONCEPT	HF LIMITER	LIMITER	FINAL CLIPPER

Digital Band Processor:
4 and 7+4 in DVP

The most powerful processor on the market

The first double processor

Unprocessed Signal — Pre-processing — Sound Processing — Processed Signal

AGC — COMPRES. 7 Bands — EXPAND. 7 Bands — OPTIMIS. 4 Bands — LIMIT. 4 Bands — OPTIM. LIMITER — FINAL LIMITER

① ② ③ ④

OVERDRIVE FFT

Remote control by software

Introduction to the DBP

The **DBP** is an exceptional processor which marries FFT analysis with double band processing to give a result that rivals the DVP with an even easier access.

The processor works on 3 levels; up to 7 bands compression and expansion on the 7+4, or, logically ,4 for the 4 band. Then, there is the Optimiser and the Final Limiter.

This totally innovative approach of double processing allows you to avoid multiplying the number of processors you use meaning cost-effectiveness and noise-reduction. Respect of the original signal is the key to IDT processing, fully demonstrated in the **DBP** range.

Features

- AGC
- Compressor/Expander 7 or 4 bands
- Optimizer and limiter 4 bands
- Optimizer and final limiter
- Concept APC (Advanced Peak Control)®
- One APP
- Integrated system of measurement
- Scheduler
- Digital Stereo Coder
- Stereo Enhancer (optional).
- Multiplex limiter (respect of standard ITU 412) (optional).
- Basic RDS / RDBS coder (optional).
- TXI, TX2, 19 kHz, SubI, Sub2
- Analogues and digitales inputs/outputs
- AES / EBU I/O (32, 44.1, 48, 96 kHz), synchro AES I/O
- RS 232, TCP/IP ethernet, GPI

Driving the DBP

The DBP is supplied with a complete graphic interface which runs under Windows® 95, 98, 2000 and XP. It can be remote controlled via modem or ethernet TCP/IP (optional).
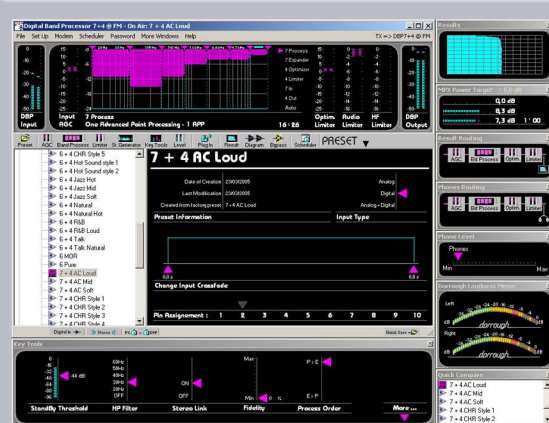
The advantages of the DBP

Based on the structure of the DVP both the DBP4 in DVP and the 7+4 can move up to FFT processing with a software upgrade.
Audio Processing on FFT was invented by IDT and has never been-equalled.
Moving from 4 band to 7+4 requires a simple software upgrade and a minimal financial input.
Consult the sales team at IDT www.idt-fr.com

| Standard INPUT | AGC | BAND PROCESS | APC 1 APP CONCEPT | OPTIMISER LIMITER | LIMITER | FINAL CLIPPER |

Digital Virtual Processor:

Change your opinion: go for the best there is in digital, the DVP proud winner of the "Cool Stuff Award" at the NAB 2000

Specifications

Introduction :
The Digital Virtual Processor is based on complex FFT algorithms which cannot, always, be expressed in measurements. To facilitate the understanding of the specifications noted below the following parameters must be taken into account: all measurements were made without processing with a unity gain, for +10 dBu I/O analogue level ~ -3 dBFS digital level. IDT reserves the right to change or modify any of the following specifications without prior notice.

General specifications :
Frequency response : +0 / - 0.4dB, 10-20000Hz (Bypass mode).
System distortion : < 0.01% THD, de-emphasised.
Signal to Noise : 92 dB unweighted, 20 Hz - 20 kHz
I/O Delay : ~13 milliseconds for the DVP and ~ 6 milliseconds for the DBP
Internal sample rate : 96 kHz
Internal resolution : 40 bit floating point
I/O resolution : 24 bit
Maximum Overshoot : 0.1 dB
Phase Response : Linear 20 Hz - 20 kHz
Process Architecture DVP: FFT (Fast Fourier Transform)
Process Architecture DBP: Band process
Process structure : 1APP (One Advanced Point Processing)
DSP : 10 Sharc 21065, expandable to 66 DSP.
Maximum number of Factory Presets : 32
Maximum number of User Presets : 64
Remote contact closure : 14 Presets

Analogue Audio Input :
Configuration : Stereo
Impedance : > 6 kOhms
Type : Electronically balanced
Maximun Input Level : +25 dBu, for THD + N < 0.01%
Equivalent Input Noise : < - 84 dBu
Common Mode Rejection Ratio: 90 dB
Connector : two XLR female
A/D Conversion : 24 bit 128X oversampled

Analogue Audio Output :
Configuration : Stereo
Source impedance : < 1 Ohms
Type : Electronically balanced
Maximum Output Level :
+24 dBu, on 10 kOhms Load for THD + N < 0.01 %
+18 dBu on 600 Ohms Load for THD + N < 0.05 %
Signal to Noise : > 100 dB unweighted, 20 Hz - 20 kHz
Connector : Two XLR male
DA Conversion : 24 bit 128X oversampled

Digital Audio Input :
Configuration : Stereo per AES/EBU (AES3), 16, 18, 20 or 24 bit resolution.
Impédance : 110 ohms
Sample Rate : 32, 44.1, 48, 96kHz autodetect
Status bits : Input channel status is decoded for control. Input user bits are optionally passed trough the output.
Connector : XLR female, EMI-suppressed
Filtering : RFI filters. BW : 0.5-200MHz

Digital Audio Output :
Configuration : Stereo per AES/EBU (AES3), 20 or 24 bits resolution.
Impedance : 110 ohms
Sampling Rate : Software selectable, free running at 32kHz +/- 10 PPM, 44.1kHz +/- 10 PPM, 48kHz +/- 10 PPM, 96kHz +/- 10 PPM.
Synchronisation mode : Internal free running or external or delivery mode for 32, 44.1, 48, 96khz
Word Lengh : Selectable 18, 20, 24 bits.
Jitter : Less than 5 ns rms.
Status bits : Output chanel status can be generated. Input User bits are optionally passed through the output
Connecteur : XLR male, EMI-suppressed
Filtrage : filtres RFI. BP : 0.5-200MHz

Digital Sync Input / Output :
Configuration : Two mode, input to provide sync, Output to deliver sync
Impedance : 75 ohms
Sampling Rate for Input mode : 32, 44.1, 48, 96khz
Sampling Rate for Output mode : Software selectable, 32kHz +/- 10 PPM, 44.1kHz +/- 10 PPM, 48kHz +/- 10 PPM, 96kHz +/- 10 PPM.
Connector : BNC female.

Digital Stereo Generator :
Frequency Response : +/- 0.1 dB 20Hz - 15kHz
Configuration : Two independently controlled output
Source impedance : 75 ohms
Load impedance : 75 ohms or grater
Level : Ajustable max 15 Vpp (100% modulation ~ -3 dBFS)
Connector : BNC
Pre-emphasis : 50 or 75µs
Stereo separation : More than 90dB, 20Hz - 15kHz
Main to Sub crosstalk, Sub to Main crosstalk : < -85 dB
Audio filtering : 80 dB rejection at 19kHz
Pilot stability : +/- 0,2 Hz
Pilot Output 19 kHz : 1 BNC
Sub-carrier : Two BNC input

Remote Computer Interface :
Configuration : Two RS 232
Connector : One Sub-D 9 pin female and one Sub-D 9 pin male
Baud rate : Auto selectable baud rate 9600 to 115200 bauds

Remote Control :
Configuration : Fully remote controllable by external modem or TCP/IP (optional).
Rate : 9600 to 115200 bauds

IRemote Control Interface :
Configuration : 14 inputs contact closure
Control : 14 users presets directly selectable by software

Power :
Voltage : 80 to 265 VAC, 50 - 60 Hz, 130 VA
Connector : IEC, EMI-suppressed
Safety Standard : CE / DBT

Environmental and Dimensions :
Operating Temperature : 0° à 50° C or 32° to 122° F
Humidity : 0 to 95% RH, no condensing
Size : 19", Two rack unit high. (W x H x D) : 48,3 x 8.9 x 40 cm - 19 x 3.5 x 15.7"
Weight : 6 Kg - 13.2 lb.