DS-00

The Soundtracs DS-00 is a fully flexible, non-compromised digital
console designed to face head-on a market in transition.
Meeting today's budget constraints, yet rich in features, it fits into any
user application with a huge array of options to exceed any requirement.

DIGITAL CONSOLE

SOUNDTRACS

Post Production and Film

The DS-00 from Soundtracs provides a powerful array of standard features for post production and film, including comprehensive automation and a full monitor matrix, with further dedicated film mixing facilities provided by the optional FP-00 module.
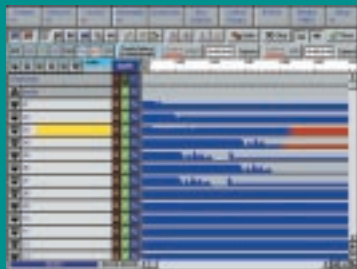
The DS-00's post production features start with a fully featured monitor matrix in the lower master section. The 40 x 8 matrix not only allows for buss/tape swit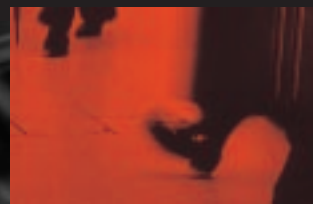ching, but also two calibrated levels and insert points required for Dolby insertion, either in the analogue or digital domain.
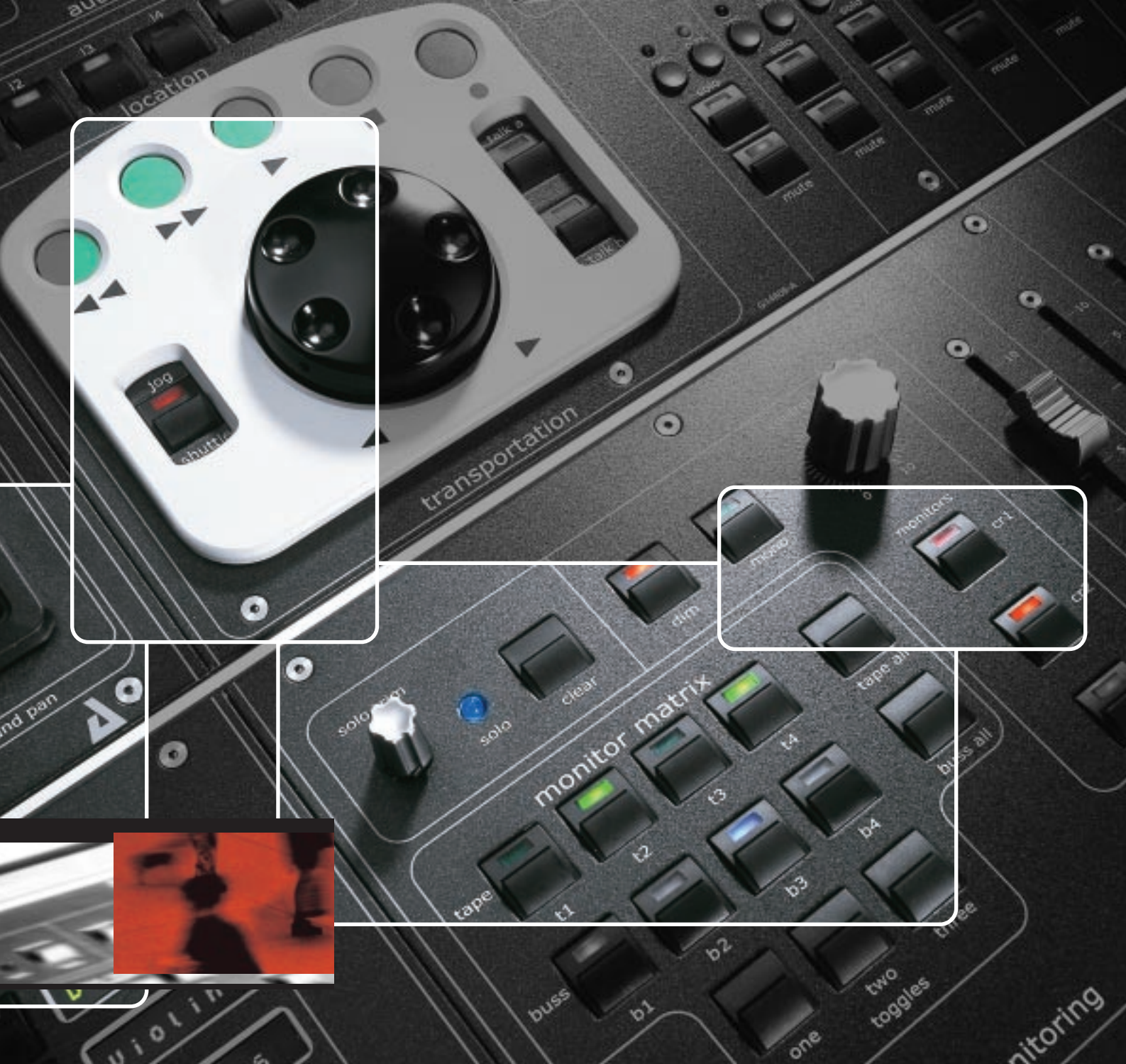
40 busses are available and can be assigned as mono, stereo, LCRS, 5.1 and 7.1. The number of available busses makes it possible to comprehensively mix using multi stems.

An optional Film Panel Expander, (see the FP-00 on page 16), is configured specifically for mixing large scale feature films, with dedicated paddle switches to buss/tape switch, and user presets that allow the engineer to recall the routing of sources to each paddle during the session.

The same powerful, renowned automation system is provided as on all Soundtracs consoles, Among its many facilities is the ability to record and play automation at any speed, forwards or backwards. Off-line editing facilities include a complete real time graphical display of the automation, and the ability to insert blank automation and cut automation based on the picture source. Write to Start and Write to End functions are also incorporated to make it straightforward to insert automation across a whole scene or a section.

automation

curve

gain

gain

m1

m2

m3

m4

m5

m6

m7

m8

macros

talk level

mic
talkback

level

0   10

0   10

0   10

studio

studio feeds

mute

mute

rec to start

on

0 1 . 0 5 . 2 0 . 1 5

rec to end

on

0 1 . 0 7 . 1 5 . 0 5

touch

safe

global

capture

capture

automation

rec

play

one

b3

Atmos play

System

Sessions

Layout

t1

t2

t3

Dio Play

Music Prep

SOURCE SWITCH M

l3

l4

Broadcast

The DS-00 is ideally suited to live to air mixing with its straightforward layout and channel strip on-screen displays. The optional broadcast kit brings with it all the key features and functionality required in modern analogue and digital broadcast.

A dedicated mix minus output is available on 96 channels, with a direct talk-to-output and the ability to source the buss from one of four independent mix minus busses. A subtractive buss mix minus is also featured on every buss output.

Soloing options include back stop PFL and auto PFL, switched per channel, with a dedicated PFL output.
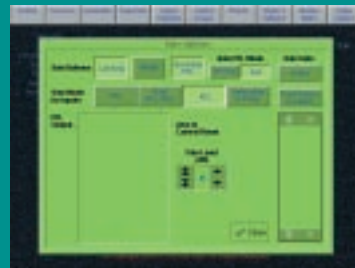
A GPO card can be added to provide fader starts, machine starts and red light ons. GPI options are also available for external contacts to trigger events on the console. These could be simple cough switches or more comprehensive audio-follow-video functionality.

Redundancy on the system is not only possible for power supplies, but also for the whole DSP engine. It is possible to shadow two DS-00 consoles in parallel; each console can control the same audio, and if one console fails, everything is instantly switched within one sample to the second console. This kind of security has never been possible at this price point.

Safetracs® is built in, enabling a full work surface restart without loss of audio, the console restarting to within a quarter frame of its previous status using NVRAM.

DS-00

Outside Broadcast

The DS-00's compact but expandable size with its powerful feature list makes it ideally suited to installations in both small and large OB applications.
The OptoCore option makes it possible to run longer distances via fibre optics as well as straightforward connection to the DiGiCo range of consoles.

The ability to route any input to any channel and route busses to multiple outputs makes it possible for the console to fit into the toughest OB application. The option of adding the optical connection allows the I/O rack to go greater distances than 50 metres via optical fibre.

The application software can also be installed on a standard desktop or laptop PC for off line configuration of the whole console.

Prior to the broadcast it can be loaded into the console on site via a dedicated USB key port.

The limitless amount of snapshots with full scope and timing makes it possible to set up complex audio follow video sequences to fit in with sports and variety show programming. A conveniently located next and previous button is provided for easy control of snapshot firing.
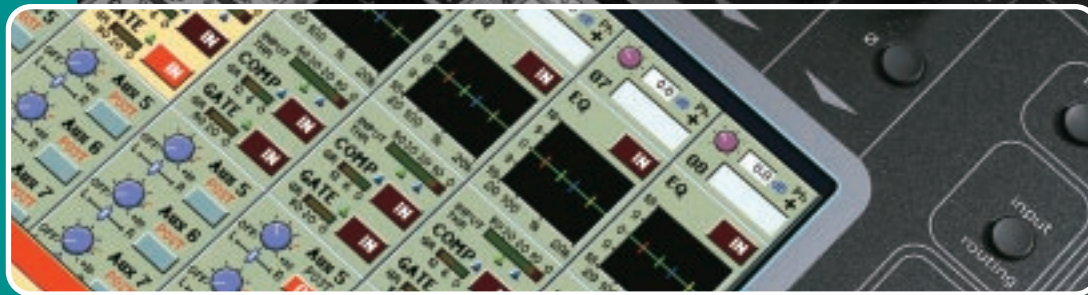
Music Recording

The expandable work surface of the DS-00 and the modular I/O rack frames makes it possible for a music studio to tailor the system to fit in with existing outboard equipment.
The consoles expandable channel count makes it possible to create large mixes with unrivalled visual feedback.

By adding the onboard effects to the system the engineer has access to four stereo and up to two 7.1 effects processors. These can be saved and automated within the session making it possible to recall all the settings.

The console also offers the option of full 96kHz operation, and multiple sample rates can be run simultaneously through the console to the outputs, perfect for smoothing the transition to the higher rate. Multiple sets of monitors can also be run simultaneously at 48kHz and at 96Hzk, allowing A/B comparisons between the two.

OS-00
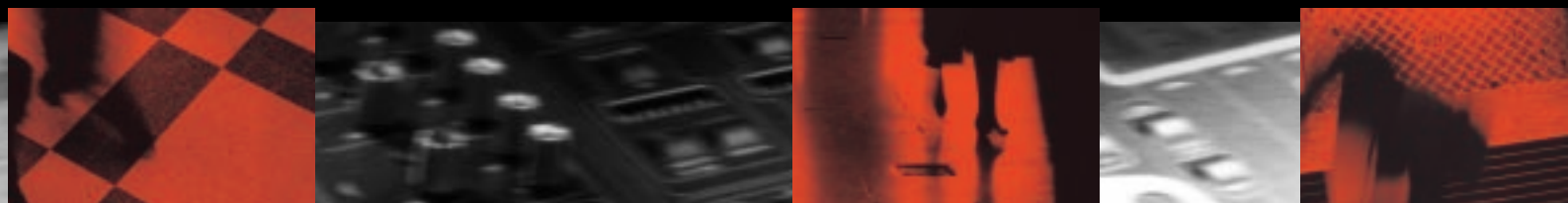
Overview

The DS-00's compact frame houses a comprehensive feature set. Yet while some compact consoles achieve their dimensions by implementing complex layers of menus and submenus and multi-function controls, the DS-00 is as user-friendly as you would expect from a Soundtracs console.

It also allows expansion, so whereas other consoles offer little or nothing in terms of future expansion, the DS-00 is the heart of a system that can expand to meet your own requirements.

As standard, it comes with 64 channels of full processing, 40 busses and mixing in surround formats up to 7.1. It also comes with eight analogue inputs, 16 analogue outputs, 24 AES I/O with sample rate conversion per XLR, and 8 I/O optical connection.

It also has a dedicated MADI input and output, to connect to DiGiTRACs™ or third party hard disk units.

Up to four EX-00 eight-fader expansion units, each with a TFT touchscreen and full metering, can be added to extend the console to up to a 49-fader surface. Every channel has the same full processing including eight equalisers - six fully parametric bands, plus high and low pass filters in the side chains, dynamics and access to all 40 busses – per channel.

Input assign allows you to bring a second full input section into the master section, allowing the operator to see 16 full channels' worth of information simultaneously for maximum visual feedback.

There are eight user-definable Macros on the top of the Master section, which can fire either individual or multiple functions on the console. This allows the operator to create user presets that handle multiple functions at the press of one button.

The powerful DSP engine is shielded inside the console's rigid steel and aluminium chassis and provides every channel with full processing and full functionality at all times, so there is no variation in performance no matter how many features

are in simultaneous use. The optional effects package comes with its own dedicated DSP card which slots inside the chassis. To transfer console settings and automation snapshots to other Soundtracs products, or to edit your console settings on a laptop PC, simply plug in the miniature USB key to a port on the front of the console.

MIDI implementation allows programme changes to be fired from the console to recall outboard settings, and the console can be controlled externally via MIDI continuous controllers for remote snapshot firing.

40 busses are freely assignable between group busses and auxiliary busses. Up to 28 aux sends can be created in a mixture of mono and stereo, while group busses can be mono, stereo, LCRS, 5.1 and 7.1, allowing simultaneous multi-format mixing, making it possible to do all the fold-downs you need from any surround format with stereo and mono compatibility checking.

Any fader on the surface can be made mono or stereo. When in stereo mode, M/S decoding is provided with a mono/stereo width control and a left/right leg reverse.

Channel ganging allows the operator to link multiple channels together. This makes easy work of inputting 5.1 signals or predubs on a single surface fader. Offsets can be individually applied to each leg of the source, by momentarily removing them from the gang.

The surface meter bridge can be set to emulate PPM or VU metering, with the option of dedicated meter outputs that can also be allocated for external metering purposes, allowing any buss to be independently metered.

Full transport control with jog and shuttle on the surface, controls machines via RS422 9 pin and MIDI machine control with SMPTE, MIDI and 9 pin outputs.

The latest digitally-driven TFT touch screen technology is featured, and an SVGA output is provided for an overview screen for a complete overview of channels and buss outputs.

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SOUNDTRACS

0:00:2.07:02
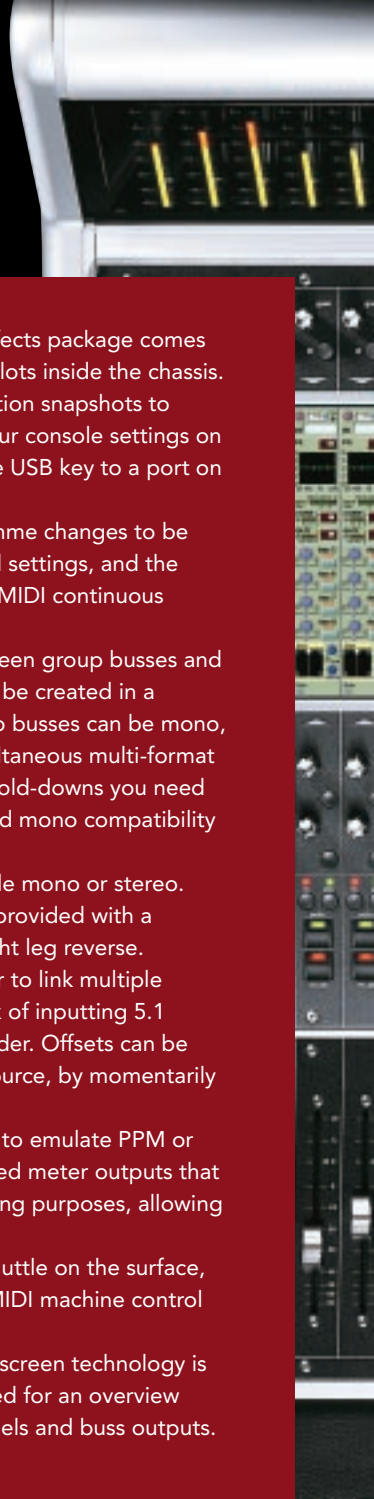
SOUNDTRACS
DS-00

DS-00

CONSOLE

Broadcast
"Soundtracs digital consoles are easy to use and offer the flexability we need to cope with a variety of sessions."
Tim Field, B Sky B

Post Production
"We chose the two Soundtracs digital desks for our new studios at Molinare because we liked both the desk and the Company, We found buying from Soundtracs very refreshing. At last a Company who takes customer service seriously."
Darren Woolfson, Molinare Post Production Limited, London

Outside Broadcast
"We absolutely needed a sound desk that was capable of surround mixing as our OB Vans are HDTV trucks. Soundtracs digital consoles have great ergonomics and are very user friendly, which is an important factor due to the fact that many different technicians will be operating the desk."
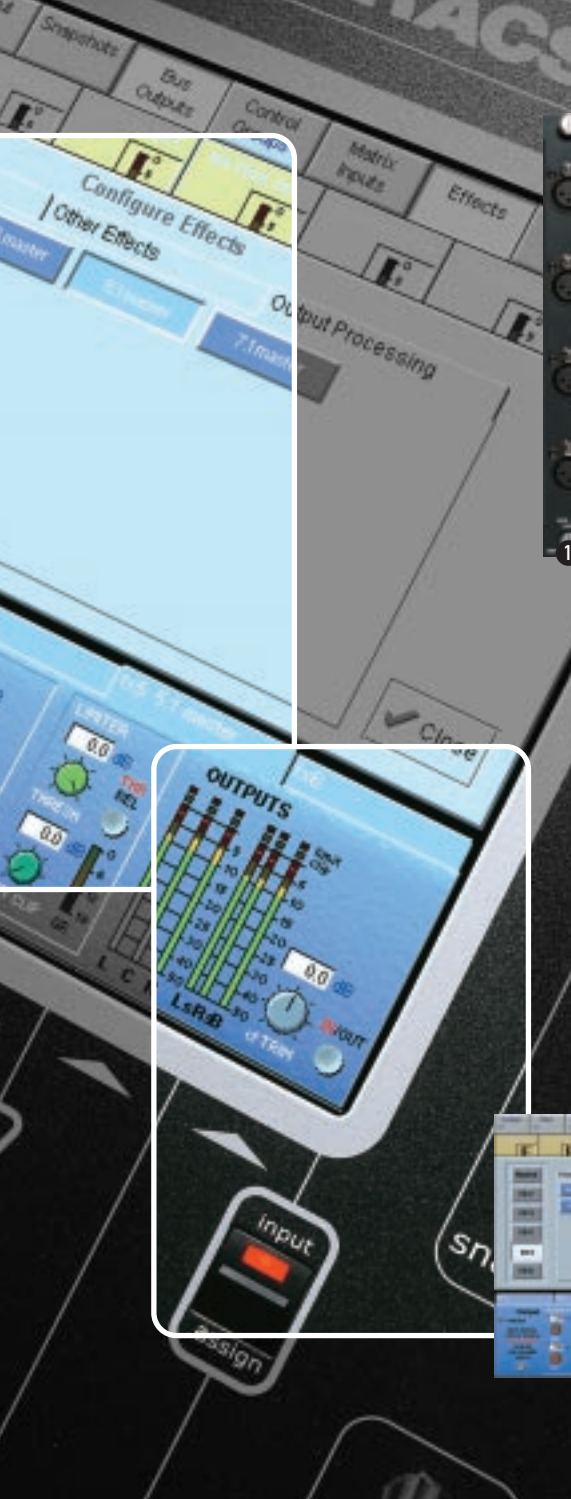Gabriel Fehervani, Alfacam, Belgium

Music Recording
"The Soundtracs console is a great tool, while features such as the automation are very successful and very useful, the technology does not disturb the creative process, so you are free to concentrate on the music."
Frank Peterson, Nemo Studio, Germany

DS-00

Card Options

1. AES input card with sample rate conversion

2. AES output card with 24-bit digital interface

3. T-DIF input/output card with Local clock output

4. ADAT input/output card with optical connections

5. Analogue input card with 24-bit A/D, mic & line inputs

6. Analogue output card with 24-bit D/A on XLR connectors

7. AES/EBU input/output card with Bi-directional sample rate conversion
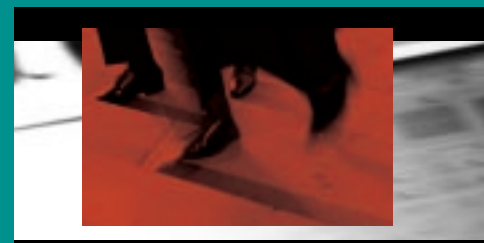
Options,

The optional onboard effects package provides six simultaneous effects – four of them stereo and two up to 7.1 - including reverbs, delays, chorus, flange, output processing and more.

The channel upgrade option allows channels to be added to the console up to a maximum of 160 channels. 24-bit I/O expansion is available in blocks of eight in any of the following formats: analogue line/mic; line outputs; AES/EBU I/O with full sample rate conversion at up to 96kHz; ADAT optical and TDIF I/O; and up to four MADI I/Os for a total of 224 inputs and outputs.

NetTracs file sharing and the OptoCore audio networking allows multiple consoles to be connected together. NetTracs is ideal for a multi-

DS-00

Expansion & Networking

room facility, with a DS-00 in each room connected via a CAT-5 network, allowing file backups and for projects to move from room to room, including settings for automation and onboard effects. The complete Soundtracs range of consoles are also compatible, allowing file sharing between different models.

With Audio Network a local rack is provided per console and control room, providing local I/O. Shared racks can be connected to the system via fibre to all rooms, allowing any room to pick up I/O in blocks of eight on a redundant loop.

Key: CAT 5 ━━━━   Optical Opticore Audio Network ━━━━

ROOM TWO

Shared
I/O Rack

Net-tracs

ROOM THREE

RACK ROOM

ROOM ONE

ROOM FOUR

FULLY NETWORKED SYSTEM

EX-OO
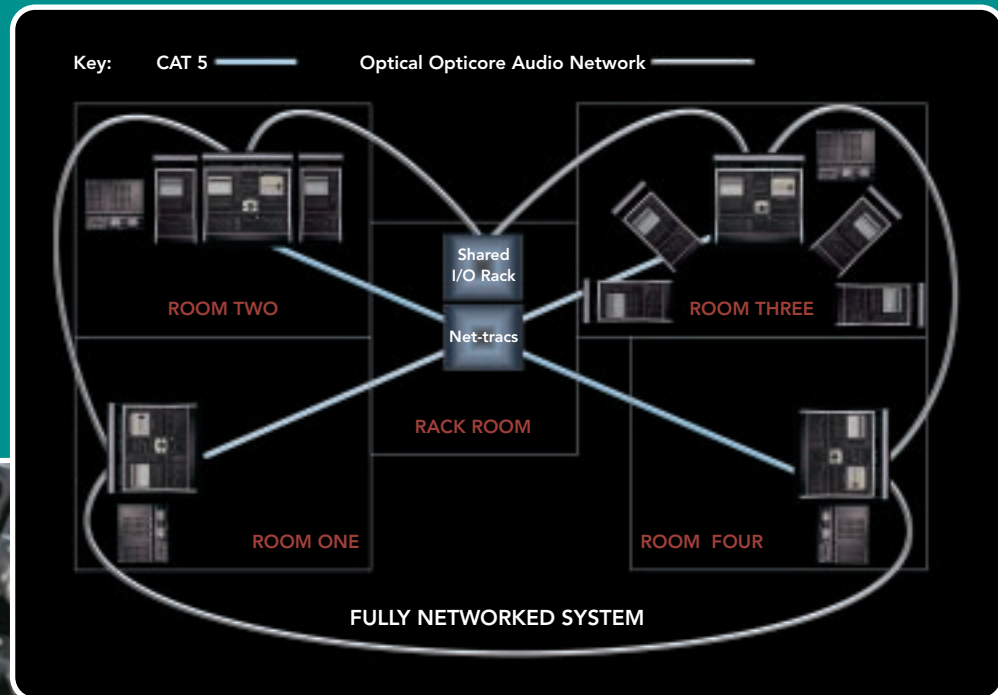
EX-00 8-Fader Expander Unit

FP-OO

FP-00 Film Panel Expander Unit

HD-OO

HD-00 Expander Unit

Expansion

The DS-00 system is rounded off with 3 optional Expander Units:

EX-00 8-Fader Expander Unit:

Up to four EX-00 eight-fader expansion units, each with a TFT touchscreen and full metering, can be added to extend the console to up to a 49-fader surface. Every channel has the same full processing including eight equalisers - six fully parametric bands, plus high and low pass filters in the side chains, dynamics and access to all 40 busses – per channel.

FP-00 Film Panel Expander Unit:

Configured specifically for mixing large scale feature films, with dedicated paddle switches to buss/tape switch, and user presets that allow the engineer to recall the routing of sources to each paddle during the session.
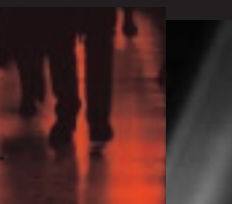
HD-00 Expander Unit:

19in rack or surface mounted section, which allows the user to drop in either external outboard gear or a hard disk editor controller.

Alfacam
Belgium

DS-OO
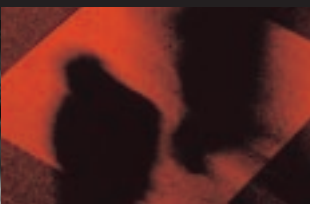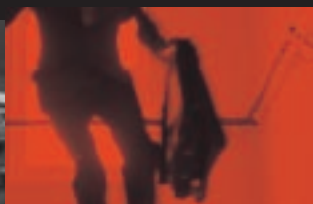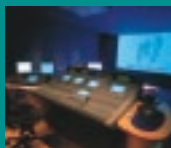
Molinare
Soho, London, UK
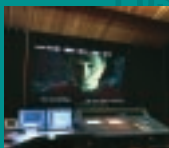
Chimney Pot
Oslo, Norway

Wave
Soho, London, UK

Covitech
Canada

Interact
London, UK

4MC
Soho, London, UK

Bayericher Rundfunk
Germany
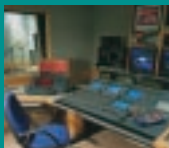
BSkyB
London, UK

ORF
Austria
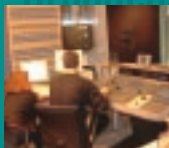
Soundmoves
UK

Nemo
Germany

5.1 Entertainmnet
Los Angeles, USA

Service & Support

Training and Commissioning

For peace of mind, you can also choose to have a fully trained Soundtracs engineer at your facility after a DS-00 installation to ensure that it is configured correctly and to perform a systems check with all your third party equipment. This service can be purchased at point of order.

In addition, our qualified technicians are able to offer on-site user training for your engineers to ensure they are fully conversant with the consoles operation for every day use.

Support Services

As always, Soundtracs strives for customer satisfaction and as such all consoles have onboard software to assist in fault finding. A modem can be fitted as a factory fit option, for remote control diagnostics, upgrades and checks.

Our fully qualified support team is available by telephone or email to assist you in any operational or hardware queries you may have before, during or after installation.

Analogue inputs

Quantization range 24-bits
Frequency response 20Hz-20kHz..................................+/-0.2dB
Level linearity deviation 0dB to –90dB............................<0.3dB
Phase difference between channels 20Hz to 20 kHz.........<2 degrees
Channel separation 100Hz to 10kHz ....>90dB
Total harmonic distortion 100Hz to 10kHz ....<0.004%
Maximum input level (at unity gain) mic and line......................+22dBU
Microphone equivalent input noise (150 ohm, 60dB gain) .-127.5dB
Maximum analogue gain (mic and line)...........................+60dB
Mic input impedance ....>1k ohms
All other analogue inputs impedance's.....................................>5k ohms

Analogue Outputs

Quantization range 24-bits
Frequency response 20Hz-20kHz..................................+/-0.2dB
Level linearity deviation 0dB to –90dB............................<0.3dB
Phase difference between channels 20Hz to 20 kHz.........<2 degrees
Channel separation 100Hz to 10kHz ....>90dB
Total harmonic distortion 100Hz to 10kHz ....<0.004%
Idle channel noise ratio ....<103dB
Maximum output level...+22dBU
Output impedance ....50 ohms

Digital I/O

AES/EBU..4bit (with sample rate converters)
MADI..56 channels of 24 bit audio
OPTICAL (Option) ....512 channel redundant optical loop

Clocking

Clock sources
Internal ....32, 44.1 and 48kHz using a high stability
                                         numerically controlled oscillator
External...From any digital input
              Black burst 75 ohm video reference and Wordclock I/O

Sample range

Sample range ....30kHz to 50kHz

Power requirements

Console ....87 to 260v AC 50/60Hz autosensing. 300 watts max
Audio rack.........87 to 260v AC 50/60Hz autosensing. 150 watts max

Note: All measurements are made with a 22Hz to 22kHz filter and RMS detector.

Channel Equaliser

High pass filter

High pass slope ....-12dB/octave
High pass frequency range (-3dB)................................20Hz to 20kHz

Low pass filter

Low pass slope..-12dB/octave
Low pass frequency range (-3dB)................................200Hz to 20kHz

High band

Mode 1: Bell
Gain range ....+/-18dB
Frequency range ....20Hz to 20kHz
Q range..0.1 to 20

Mode 2: High Shelving
Gain range ....+/-18dB
Frequency range ....20Hz to 20kHz
Q range..0.1 to 0.85

Mode 3: Low Pass
Low pass slope..-12dB/octave
Low pass frequency ....20Hz to 20kHz

Upper mid band

Gain range ....+/-18dB
Frequency range ....20Hz to 20kHz
Q range..0.1 to 20

Specifications

Lower mid band

Gain range ....+/-18dB
Frequency range ....20Hz to 20kHz
Q range ....0.1 to 20

Low band

Mode 1: Bell

Gain range ....+/-18dB
Frequency range ....20Hz to 20kHz
Q range ....0.1 to 20

Mode 2: Low Shelving

Gain range ....+/-18dB
Frequency range ....20Hz to 20kHz
Q range ....0.1 to 0.85

Mode 3: High Pass

High pass slope ....-12dB/octave
High pass frequency ....20Hz to 20kHz

Channel Dynamics

Compressor

Threshold range...-50dB to 0dB
Attack range ....500uS to 100mS
Decay range...10mS to 10S
Ratio range ....1:1 to 50:1
Gain make up range.....................................0 to 40dB

Gate

Threshold range..-50dB to 0dB
Attack range ....50uS to 100mS
Decay range...5mS to 5S
Hold range ....2mS to 2S
Gate depth range......................................0 to -90dB

Output buss limiter

Attack time ....1 audio sample
Threshold range...0 to –50dB
Release range ....5mS to 5s
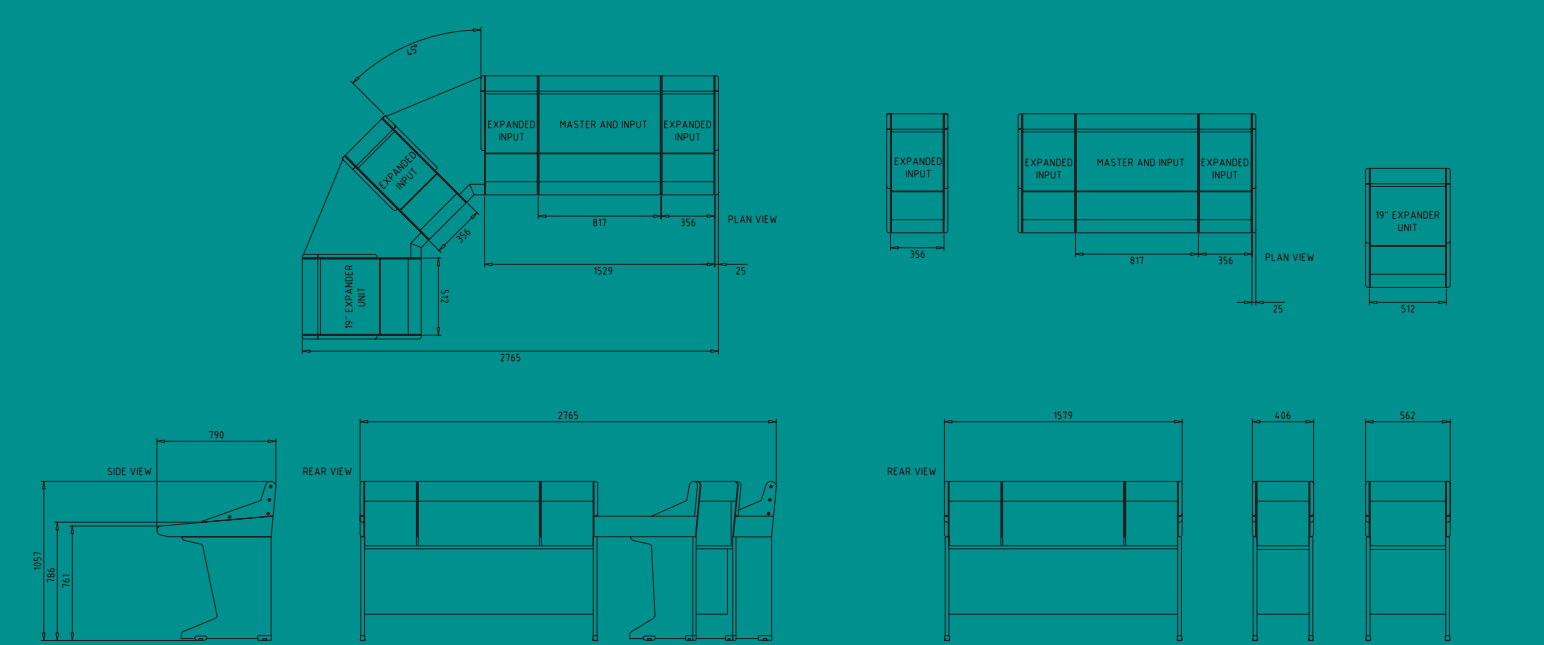
DiGiCo SOUNDTRACS UK Ltd

Soundtracs was formed in the early 1980s by a group of recording engineers in search of a better studio console than the desks available at the time. The team's success led to two decades of audio innovation and, in 1992, its first development of a digital audio mixing console. In 1996 this program led to the launch of the acclaimed Virtua console, followed a year later by the DPC, in 1998 the DS3 and in 2000 the D4. Since 2000 the company's product range has been based entirely on digital audio. Along the way a host of new technologies has been introduced, including the first use by a console manufacturer of the revolutionary Sharc DSP from Analog Devices, a faster, more efficient processor than any then on the market, the first (and still the most comprehensive) use of multiple TFT LCD touchscreens, a pioneer in the use of a 96kHz sample rate, and the first to run multiple sample rates simultaneously. This is just some of the experience that has gone into creating the DS-00 digital mixing system, the latest innovation from one of the pioneers of digital professional audio.

DiGiCo Limited brings together the design and development skills that have helped create some of the world's most popular, successful and ground-breaking live sound consoles, with the digital engineering expertise and manufacturing resources of Soundtracs. The company was formed in 2002 to develop the D5 Live digital mixing system, a revolutionary approach to both the live sound console and the way it interfaces with both ends of the audio chain. In basing a console around a powerful DSP engine using proven Soundtracs hardware and software, but with features dedicated to live sound mixing, DiGiCo created the world's first truly open-ended console system, for which additional features will be made available in new software versions. This design philosophy ensures your investment in state of the art audio technology today will remain state of the art in the future. The D5 Live from DiGiCo: science dedicated to advancing the art of live sound engineering.

Email: sales@digiconsoles.com   Web: www.digiconsoles.com