



INSTALLATION
MANUAL

ISSUE B

DS-00 Installation Manual Contents

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Electrical Safety Warning

Unlike most large conventional analogue consoles, the DS-00 worksurface contains its own mains power supply, and a variety of internal supply units and converters. These are fully insulated and covered to meet the relevant electrical safety standards, but technicians working within the console should be aware of the presence of **mains voltage**.

Note also the rack PSU if operated removed from the chassis has heatsinks exposed that are live to **mains voltage**.

Also, DS-00 contains a number of back-lit flat screen displays. The illumination system of these displays uses line voltages of up to several KV, generated by high frequency DC - DC converters located close to the displays. Touching or tampering with these circuits will put a technician at risk of very damaging RF burns to the skin and/or **high voltage electric shock**.



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Introduction

Welcome to the Soundtracs DS-00 Installation manual. This manual is provided for purchasers of the DS-00, in order to help their installation and connection of their new console.

Soundtracs hope that this manual answers all the questions which may be asked by system designers and installers, but should there be any issues unresolved for your particular installation, the local distributor or the factory will be pleased to assist.

In general the installation of a DS-00 presents no problems which are significantly different from those of any other large format mixing console when used exclusively for analogue systems and when used in digital systems, is not significantly different from other digital consoles.

System Description

The basic Soundtracs DS-00 console consists of a Worksurface, and 1 Input/Output Rack Unit. Optionally extra worksurface sections and input/output racks can be added.

All the console's audio inputs and outputs are connected to the Rack unit, and each Rack unit is connected to the Worksurface via a pair of digital MAD1 links in either coaxial or within an (optional) Optocore® optical system. Each pair can carry up to 56 audio inputs and outputs.

There are 2 pairs of MAD1 connectors available on the Worksurface rear panel (optionally 4) allowing the connection of 1 or 2 Rack units and an alternative madi connection. This gives a total capacity of 112 input and output sockets. However, the console is only able to assign up to 64 audio channels, so not all the channels in a 2-madi system can be used simultaneously.

Each Rack module contains input and output cards, which allow the same Rack unit to connect to different types of analogue and digital audio devices.

As well as connecting the Worksurface MAD1 links to Rack Units, you can also connect them directly to any other MAD1 equipped device, such as a digital multitrack recorder.



The Worksurface

The DS-00 Worksurface is in many ways very similar to any large analogue mixing console. One key difference, however, is that no analogue signals are connected directly to the worksurface - all analogue I/O is via the Rack units. The Worksurface rear panel does include a number of signal connectors, but these should be used only for synchronisation, not for audio I/O.

The Worksurface is supplied in one chassis size, for 8 input + 8 master section faders but additional EX-00 expansion units can be added to increase the size of the worksurface.

Worksurface Expanders

Up to 4 expanders can be added. They can be free standing or bolted to the main unit with 3 x M10 bolts (the end cheeks must be removed). If bolted together the entire unit must be supported from underneath. These are connected to the main unit using 50 way (mini SCSI style) connectors. Note the mixer must be specifically configured in hardware and software to support expanders at installation time prior to use. This is documented in a separate Technical Note. Also available is a 19inch open frame (HD00) in a matching style which is ideal for flat screen displays, keyboards etc.

Console Power Supply and Cooling

Unlike most analogue consoles, the DS-00 Worksurface is powered directly from the mains, with no external supply unit. The internal mains supplies are highly efficient and require no forced cooling, which means that the Worksurface is silent in operation.

However, it is important that convection airflow to the finned heatsinks on the rear of the Worksurface are not restricted in any way. This heatsink normally runs at around 25C above ambient temperature, and will be hot to the touch, though not hazardous. Note there are 2 x IEC mains inlets for the dual redundant supplies if this option is fitted.

Worksurface Connections

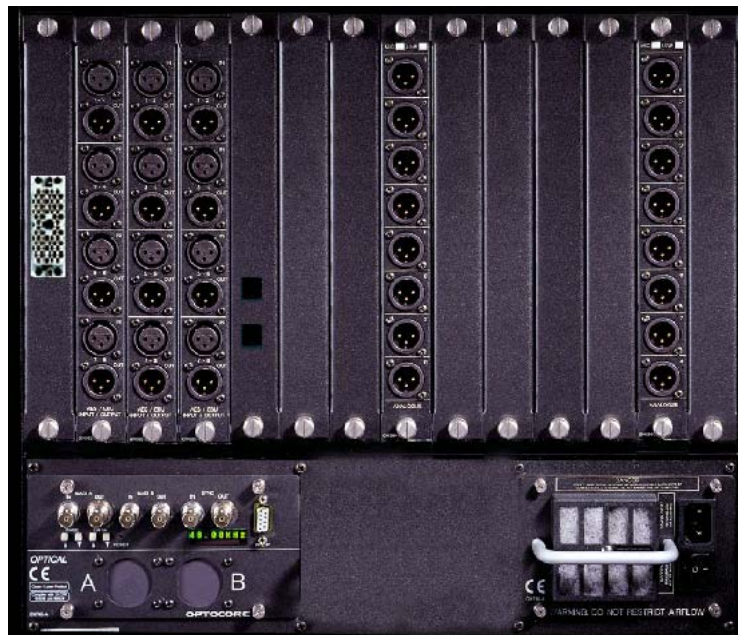
Apart from headphones and remote talkback, no audio is connected to the worksurface. Sync and control connections are detailed later in this manual.

Headphone Connections

There is a headphone connector with a 1/4" (6.3mm) stereo jack under the armrest. This will drive down to 8 ohm loads, but note there is considerable power/voltage available at low impedance. External volume limiting should be provided where required by local regulations.

Keyboard.....

The Worksurface unit includes a small computer keyboard with integral trackball. This is a free standing IR wireless device. Users may like to provide appropriate storage for this when not in use. Normally daily fitted to a slide-out tray which is set into the bottom of the console.



Interface Rack Units and Modules

Audio signals are connected to the console via Rack Units. Each Rack Unit is a 19-inch chassis with a control panel at the bottom. Above this panel are 14 card slots, each of which can accept a Rack Module.

Each Rack is a standard 19" wide, and 9U (353mm) high. The units are 365mm deep, excluding connectors.

Rack Power Supply, Cooling

Rack Units have their own mains power connection (optionally 2 supplies - Note there are 2 x IEC mains inlets for the dual redundant supplies if this option is fitted), and consume about 70VA start 50VA run (fitted with 2 analogue modules or 8 digital modules but this depends on configuration) Up to a maximum of a 150VA run. At least 1U (45mm) of space should be left above and below the rack unit to allow ventilation, and to prevent heat transfer from adjacent equipment.

Rack Earthing

The analogue earthing requirements of the Rack unit is similar to those of a conventional large analogue console. All analogue inputs and outputs are balanced and symmetrical, but not floating, because of their transformerless design. Installers should use good earthing practice, as with any large audio installation. Digico can provide copies of AES papers on this subject upon request.

Rack Control Panel Connections

The Rack Unit control panel provides connectors as follows:

MADI MAIN IN & OUT (2 x BNC)

MADI AUX IN & OUT (2 x BNC)

WORD SYNC IN & OUT (2 x BNC)

Optocore® (2 x HMA connectors or 4 ST connectors) - Optional

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External Sync via an I/O Rack.....

Any digital audio input can be selected as the digital sync master for the console, and each rack unit also has a separate AES/EBU input and Word Clock output - these are located on the Rack Control Panel. See the Rack section for more information.

Connections.....

Worksurface Rear Panel

Function	Connector	Comments
MADI Audio I/O	Female BNC	2 or 4 Pairs of I/O
RS-422 Machine Control	Female D-9	Sony P2 Protocol
LTC Time Code In	FXLR	Balanced, Pin 2 Hot
LTC Time Code Out	MXLR	Unbalanced, Pin 2 Hot
MIDI In/Out/Thru	5 pin DIN	MMC, MTC
AES/EBU Input	Female XLR	Sync input ONLY
AES/EBU Output	Male XLR	Null signal sync output ONLY
Word Clock Input	BNC	External clock input
Word Clock Output	BNC	Clock output follows console (5Vp-p)
Video Clock Input	BNC	House video sync
External Monitor	15 pin HD D	Overview, adjustable resolution Ideally use 1280 x 1024 SVGA
External Talkback Mic	9-pin D Female	See separate page
Modem	RJ11	See separate page
Network	RJ45	Ethernet compatible (Not implemented for general use)
Optocore® (Optional)	HMA (x2)	Alternative multichannel audio connection
Mains Power	IEC power	

I/O Rack Control Panel

Function	Connector	Comments
MADI I/O	BNC socket	2 Pairs of I/O to Console
Word Clock Out	BNC socket	48/44.1 KHz 5V p-p
Word Clock In	BNC socket	48/44.1 KHz 5V p-p max
Mains Power	IEC power	
Optocore® (Optional)	HMA (x2)	Alternative multichannel audio connection

I/O Rack Audio Connections

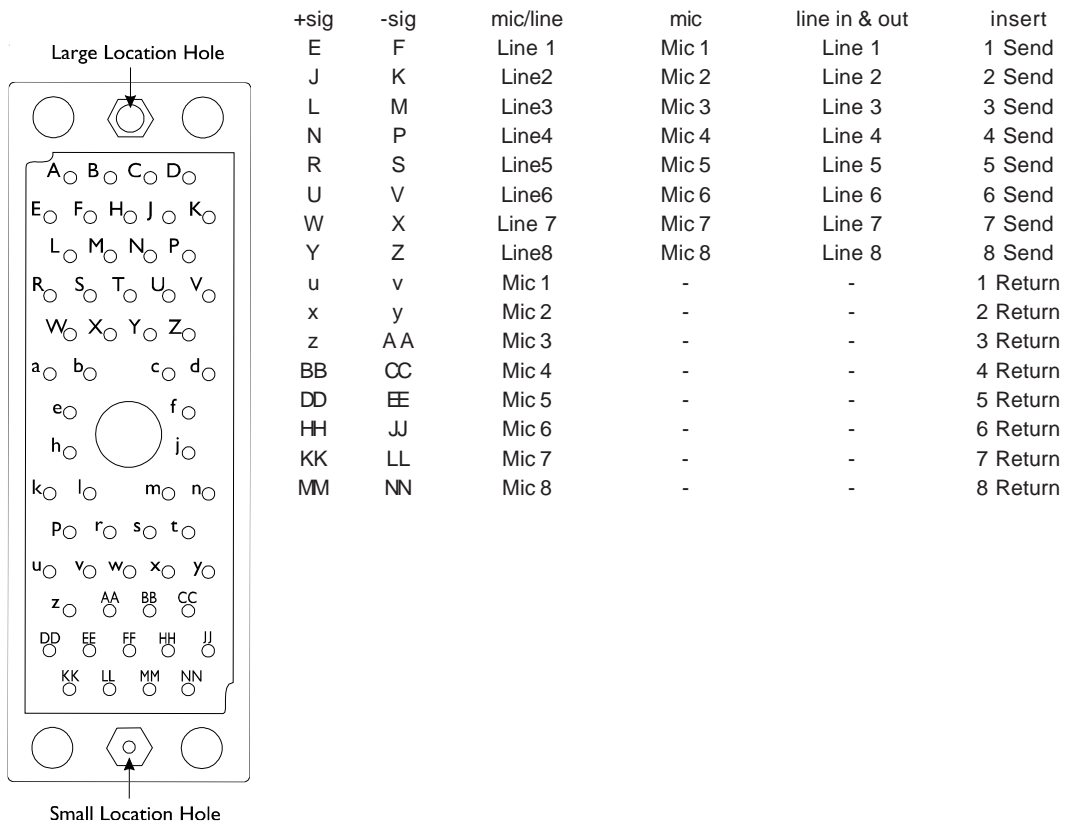
The number and type of Rack Modules in each type of rack varies according to requirements.

See Standard Configuration details elsewhere.

Function	Connector	Comments
Standard Analogue Input Card	56 pin EDAC	8 channel device, mics and lines share 1 connector
Optional Analogue Input Card	3 x 56 pin EDAC	8 channel device with 3 connectors
	Analogue Line Inputs	56 pin EDAC* 8 Channels per card
	Analogue Mic Inputs	56 pin EDAC* 8 Channels per card
	Analogue Inserts	56 pin EDAC* 8 sends and returns per card
Optional Analogue Input Card	8x Female XLR	8 channel device jumper selectable either Mic or Line
Standard Analogue Output Card	8x Male XLR	8 channels per card
Optional Analogue Output Card	56 pin EDAC*	8 channels per card
AES/EBU Inputs	4x Female XLR	Four connectors = 8 channels per card
AES/EBU Outputs	4x Male XLR	Four connectors = 8 channels per card
AES/EBU Input / Output	8x XLR	4 Female (input) + 4 Male (Output)
TDIF Input / Output	25-way D Female	8 Channels - conforms to Tascam standard
ADAT Input / Output	2x Toslink Optical	8 Channels - conforms to Alesis standard
Ethersound I/O	2x Neutrik RJ45	
Aviom Output	1x Neutrik RJ45	16 Channels - Output (Uses 2 Rack Slots)

NOTE: for details of EDAC wiring, please see diagram. Analogue and basic AES/EBU cards are either input or output variants. Obviously they must be fitted in the Input or Output side of the rack. AES-I/O, T-DIF and ADAT cards on the other hand are input and output cards combined. They must be fitted on the Input (left) side of the rack. The corresponding output slot must be fitted with a blank.

Analogue I/O EDAC Connectors



All signals are balanced - all other pins are ground except H,T,w,FF.

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Connecting Optocore® Redundant Optical Audio Data System.....

For basic connections to the optical cables between the mixer and 1 or 2 racks, refer to the Quick Start section.

It should be noted that all coax MADI connections remain available for use (with the 50m / 160' cable length limitation) and can be considered a backup to the optical system, if required.

The Optocore® system used in Digico mixers is a high speed digital audio data system that allows multiple interface racks to be connected "daisy chain" along a single optical system.

The HMA battlefield cable and connectors system is a dual in/out (2 lens) bayonet style connector. 2 multichannel audio signals, 1 input 1 output, are carried on each single plug, so there is only 1 connection required per rack. The system actually carries many more than the single rack capacity of 56 channels in and out. By using an "address" setting on each rack equipped with optical connectors, 1 optical signal can be sent to several racks, with each rack taking and sending signals independently. All units on the Mixer system have 2 bi-directional connectors, allowing the optical cable to come from the mixer to the first rack, then out to the second and so on. All optical connectors are interchangeable, therefore the order of cables and connectors in use does not matter. The system will always work.

Redundent Optical Operation.....

A key feature of this system is that, optionally, the Optocore interface provides the ability to have a dual redundant optical path, so that the system will continue to operate unaffected in the event of a complete cable or connector break. This system combined with HMA ensure the utmost reliability, even in the event of a cable being destroyed.

The final rack in the daisy chain can be connected back to the mixer with an extra (optionally supplied) cable. This forms a complete "ring" of data flowing in both directions. In the event of a cable break, the data will continue to flow on the remaining part of the ring without interruption.

Adjusting Settings in a Multiple Rack System.....

The madi interface on the Rack has a "menu" type programming and setting system using 2 pairs of up/down buttons, page and data, and an LED display.

The Menu is a series of "pages". Use the page ^ and v keys to navigate the pages. This is fully documented in a separate Technical Note.

DO NOT be tempted to change ANY other setting without good reason and then only after studying the detailed notes. It is possible to make the rack unusable in a normal system by accident!

The display will show the page item and the data associated with it. The data ^ and v keys are used to change the displayed setting, where this is possible.

The default display is the primary system status and active sync input. Typically this will read OK:RxA

The LED readout will default to the primary status display, from any previous setting and the buttons will go to a "locked" mode, where the buttons are disabled, to prevent tampering.

Pressing any button in this state causes dDEC/INC to display.

This is a prompt to unlock (data - Decrement + Increment)

Press both data ^ and v buttons together to release the menu system.

Next press the page up (or down as required) button to show: OptID=30 (or some other number) this sets the Optocore ID. Use the data up or down button to set the correct number.

The stage rack 1 is normally set for ID=30, stage rack 2 (used on dual rack systems) is normally set for ID=32. Note Mixer is normally set to ID=20 (set in the mixer software), do not use this in a rack.

Care of the optical cable system.....

Whilst the system is very robust, like all connector systems it should be treated with care, the show depends on it!

The HMA connector is a precision machined device containing 2 lenses and an 1/2 turn bayonet style screw locking device. Because it is an in/out connection, a plug will fit into a socket in 1 direction only.

All connectors have captive dust covers. These MUST be fitted to the exposed connector any time the connector is not in use. This is to prevent dust landing on the lenses and to give mechanical protection to these expensive devices.

The cable is 2 separate "light pipes" in 1 very strong lightweight outer jacket. The armour just inside the surface of the jacket itself is nearly impossible to cut by hand with any sort of blade or pull apart except with the aid of machines. However the glass strands inside can be broken by hard hits or tight bending (like any type of glass!).

Typical optical cable breaks do not have the cable broken right through and it may look OK externally. Typical causes of optical cable breakage are being run over by a wheel in a rail (such a sliding doors used in loading bays) or by trapping in heavy tight fitting door, such as used in recording studios. Very tight bends caused by pulling a cable very tight with a knot tied in it can also cause the light pipe to break.

It should be noted that the optical cable is not repairable on site. It is best considered that it is not repairable at all, and treated with due care. In general it is not considered economic to repair broken optical cables.

Repair and making of these cables is a highly skilled job requiring specialised tools and materials. Because the lenses are bonded with an optical glue, the internal parts of connectors cannot be re-used. It is not possible to "splice" broken cable sections without using a connector to terminate the broken ends of the glass strands. The usual fix for a break near a cable end is to shorten the cable past the break and fit a new plug. A break in the middle leads to 2 cables half the length with 2 new plugs or just scrapping the cable.

Checking the Optical cables.....

Note that the data transmission system uses IR laser light sources and is scattered light system. This means the data signal cannot be seen, unlike Toslink cables used for CD players for example. This means looking at cable connected to a live source will not show if the signal is getting through. As with all laser sources users should not look directly into the end of cable with the other end end connected

To test the integrity of a HMA cable, use a regular light source (torch/flashlight or table light) at one end and see if the light emerges from both lenses at the other end. Because the cables uses lenses, this will normally appear as the light is quite distant down a tunnel. Which in a way it is!

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The following example shows how to run the DiGiConfig program from the DS-00 software in order to configure your hardware:

- 1) Open the **System / Service** menu.
- 2) Press the **Configure Hardware** button, the DS-00 software will close and DiGiConfig will open.
- 3) Select the type of console that you want to configure - in the example, a **Main** console is selected.
- 4) This will apply the correct configuration but the details can be further edited in this panel.
- 5) Press **OK** to return to DS-00 software.



The DiGiConfig v 4.2 Console Configuration window is shown. It has several sections:

- Hardware Expected:** Includes checkboxes for 'Audio Engine', 'Timecode', and 'WorkSurface'. It also has spinners for 'Slave cards' (3), 'MADI cards' (1), 'Input surfaces' (2), 'GPI cards', 'Relay cards', 'GPI port', and 'Relay port'.
- Audio Engine Options:** Includes checkboxes for 'On-Board FX' and 'Processing Channels', and a spinner for '9-pin Tracks to arm' (48).
- Overview Screen:** Includes a 'Connected' checkbox and spinners for 'W' (1024) and 'H' (768).
- Optocore:** Includes checkboxes for 'Connected' and 'Copy to MADI' for ports 1, 2, 3, and 4, and an 'ID' spinner (20).
- MADI In Only:** Includes checkboxes for 'Half Connected'.
- Console Network:** Includes a 'Connect' checkbox and an 'IP address' field (not available).
- System Access:** Includes a 'Password' field and an 'Edit Rig' button.
- Sockets file:** Includes a text field 'Default.skt' and an 'Edit' button.
- Surround Signal Order:** Includes text boxes for 'LCRS' (L C R S), '5.1' (L C R SL SR B), and '7.1' (L L C C R C R SL SR B).
- Other controls:** Includes 'Fader Start threshold' (6) and 'hysteresis' (2) spinners, and 'Restore', 'OK', and 'Cancel' buttons.

 Annotations with arrows point to various parts of the window:

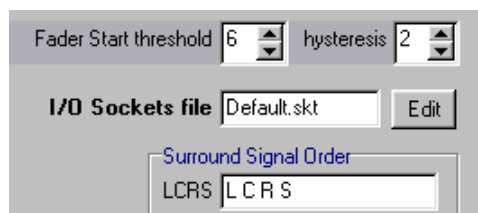
- 'Specify hardware present on system' points to the Hardware Expected section.
- 'Tick boxes to activate / deactivate FX' points to the Audio Engine Options section.
- 'Configure Overview Screen Here' points to the Overview Screen section.
- 'Select and edit GPI script file' points to the 'GPI.txt' field.
- 'Set fader start threshold' points to the 'Fader Start threshold' spinner.
- 'Select and edit Sockets File' points to the 'Default.skt' field.
- 'Change output stem signal order' points to the Surround Signal Order section.
- 'Optocore Details This console's Optocore ID Which ports are connected' points to the Optocore section.
- 'Network Details Tick box to connect Click Change button to edit Local IP address' points to the Console Network section.
- 'Specify system access password' points to the System Access Password field.

The Sockets File.....

The DS-00 is provided with a Sockets File (default.skt) that defines which cards are in which position in the Racks and also allow custom names to be entered for the sockets on those racks. If the rack configuration is never changed and you do not require custom names then there is no need to change the default Sockets File.

If necessary, the Sockets File can be edited by touching the **Configure Hardware** button in the **System / Service** menu - the DS-00 software will close and **DiGiConfig** will open.

On the right of the panel the current Sockets File is indicated (**default.skt** in this example). Touch the **Edit** button to view and edit its contents.



The format and syntax for the Sockets File is as follows - Any text preceded by a semicolon is a comment and will be ignored:

MADI Declarations

The first section defines the cards in the racks with 2 numbers separated by a dash. These numbers represent the Console MADI Port number and the card position in the rack.

Note: Card slots 1 to 7 are for input cards and 8 to 14 are for output cards.

The AES SRC cards are both Input and Output and must be put into the Input Section (Slots 1 to 7) of the rack with the equivalent output slot left empty.

eg. MADI 1-1 = Analog
Means MADI Port 1 - Card Slot 1 = An Analogue Input card

Port 1 (A) is the main Rack with:

8 Line / Mic Inputs
24 AES Inputs / Outputs
8 ADAT Optical Inputs / Outputs
16 Analogue Outputs
Slots 6,7,9,10,11,12 and 14 are empty.

Port 2 (B) is spare

These are defined as follows:

```
; Example 48kHz Sockets File for DS-00  
;=====
```

```
;MADI PORT DESCRIPTIONS  
;-----
```

```
MADI 1-1 = Analog  
MADI 1-2 = AES2  
MADI 1-3 = AES2  
MADI 1-4 = AES2  
MADI 1-5 = ADAT
```

```
MADI 1-8 = Analog  
MADI 1-13 = Analog
```

```
MADI 2 = 0
```

The remaining MADI port 2 is not connected therefore:

```
MADI 2 = 0
```

Note: If another device such as hard disk recorder with MADI connections is to be used it can be connected to MADI port 2 to provide 56 inputs and outputs. In this case the above line should say:

MADI 2 = 56

Socket Descriptions

These descriptions do not need to be declared as default names will be created but if they are defined then extra parameters can be preset and custom names can be created.

By default the inputs and outputs are defined in groups of 8 sockets but the groups can contain any number of sockets.

The names to the left of the equals sign (=) may be customised but the numbers on the right of the equals sign must be in the following format:

eg. Mic 1 = 1-1-1
 User label = MADI Port Number (1 to 4) - Slot Number (1 to 14) - Socket Number (1 to 8)

Some useful parameters that can be added to the definitions of input sockets are:

Mic 1 = 1-1-1, MIC - Indicates that this is a microphone input.
Mic 1 = 1-1-2, MIC, 48V - Provides Phantom Power to Mic input by default.

And for output sockets:

Line 1 = 1-8-1, -10 - Analogue output has -10dB attenuation by default.
AES1 = 1-2-1, SRC 2 - Converts AES output pair (AES1 and AES 2) to 44.1Khz sample rate.

For further details and examples of Sockets Files refer to "example.skt" and "DS00setup.rtf" in the C:\DS00 directory

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Fader Start and GPI Option Connections

The console can include a Fader Start or GPO (general purpose output) and/or GPI (general purpose input) functions. These are connected via 37-way D-connectors on the Processor Rack rear panel. This can be 16 outputs and 16 inputs and can be increased to 32 inputs and 32 outputs.

The outputs are provided by relays, the inputs by external contact closures. (numbered 1-16). Their operations are allocated to a particular console function in the console configuration files (*ie* they are set up when the console is installed). Refer to the Ds00setup.rtf file,

GPO's can be assigned to any input or output socket and any fader which controls the level of the channel which is assigned to that socket will also operate the relay for that socket. Typical users are CD player start, "Mic open red light" activation etc.

GPI's can be used to remote control most console software functions. Almost any software button can be assigned to an external hardware button. Typical uses are mic mute (cough switches), Monitor select or dim etc. The GPO and GPI connectors are wired as follows.

IO No.	Pins	IO No.	Pins
1	2-3	9	20-21
2	4-5	10	22-23
3	6-7	11	24-25
4	8-9	12	26-27
5	10-11	13	28-29
6	12-13	14	30-31
7	14-15	15	32-33
8	16-17	16	34-35

pins 18 and 36 are +5V, and pins 19 and 37 are Ground. Pin 1 is unused

NOTE: Under no circumstances should the fader start relays be used to control ac mains directly. Use low voltage remote control (maximum 24V) for this function.

Fader Start Relay Specifications

Switch current	0.5A
Switch Voltage	200V dc
Switch power	10W
Contact resistance	0.2ohm
Operating time	0.5 mS
Lifetime	10 ⁷ operations

For GPI use a contact closure across the 2 pins shown. One pin is ground, the other a logic input. Please Note that these inputs are not isolated or floating, so external relay isolation should be provided to isolate external systems if not using GPI's directly with independent push switches.

External Talkback Connection

In addition to the internal microphone, the console is provided with a 9-pin socket for connecting an external Talkback microphone. The microphone input is balanced, and the socket also has a pair of pins which are used to preset the analogue amplifier gain. Use a male cable connector.

Pin	Function
1	Mic +
2	Mic Ground
3	Gain A
4	Ground
5	nc
6	Mic -
7	Ground
8	Gain B
9	nc

You must set the gain range for the microphone by wiring a resistor between pins 3 and 8 - the gain can be fine-trimmed within the console's Talkback control screen. The resistor should be wired within the 9-pin connector itself, as the microphone signal runs through it. Example resistor values are shown below.

Resistor (Pins 3-8)	Gain
Short Circuit	50dB
100 Ohm	40dB
330 Ohm	30dB
1K Ohm	20dB

Phantom Power supply (+12V) is available on this connection by setting an internal jumper on the TB PCB. You can use an electret microphone if higher sensitivity is required than a dynamic can provide.

Paint Finishes & Colours

For the purposes of matching furniture and other surrounding equipment in a permanent installation, the following paint specifications are used in the DS-00.

The **Worksurface Panels**, rack face panels and audio In/Out modules are painted using metallic 'sparkle' effect dark grey by Cromadex, code V6000

The **Chassis Frame and End Cheeks** are painted in a standard Automotive paint, Citroen "Pearl Grey" metallic, using a deep spatter finish laquer coat.

The **Armrest** is black matt finish leather.

Shipping and Packaging

The DS-00 system is shipping is double (box -in-box) triwall cartons

Worksurface: 112 x 114 x 77 cm 71Kg

Rack: 72 x 63 x 71 55Kg

Expander 66 x 114 x 74 26Kg

Important Note for Installers

DS-00 is a large format product of considerable complexity and is subject to constant revision and changes to improve performance and the manufacturing process.

As a result, the product as delivered may vary in small ways from the details in this manual. Any specification which is critical for a user's application should be confirmed with Digico at the time of ordering. If there is the slightest question that might significantly affect the installation of the DS-00 in its new home, please ask!

Possible examples include critical dimensions with respect to custom-made furniture and fitments, or fitting details in relation to a vehicle in mobile studio applications.

COMBINED GENERAL PURPOSE INPUT/OUTPUT + MIDI OPTION (GPIO CARD).....

EXTERNAL CONNECTIONS

This card replaces the 2 individual 16 way input and output options (GPI and GPO or "fader start").
It combines 16 GPI and 16 GPO with 1 MIDI in-out-thru port in addition to the midi port already provided on the mixer.
The connections are on a single high density series D connector, with 62 pins (this uses a standard 37 Way D sized shell)
Two tables follow arranged by pin number and function.

Connection Notes

GPO Relay outputs are SPST make connects. These are floating on connections A and B.
Contact are rated 0.5A 100V dc (max 10W)
GPI inputs are logic (non isolated) requiring a make to 0V (earth). These have internal pull-up 22K to +5V. A simple single pole switch or relay (make to 0V) will trigger the input.
The +5V present is fused internally for logic level use only.
MIDI connections are to published midi standards.

Programming

See separate notes relevant to the mixer model in use for programming information. GPO's are programmed in the sockets file, GPI's in a separate script file declared in the hardware configuration and written separately.

If the card is not declared in the hardware configuration, a worksurface error will result. This is normal the first time the system is operated with the new card in place, until the system configuration is amended to include this card.

Note that declarations referring to GPI and GPO ports are set equal for a combi card which the system will then recognise as such. There are no separate declarations for a combi card.

e.g
GPI port = 5
GPO port = 5

When using the digiconfig hardware edit details program, the GPI and GPO will default to different ports, and must be manually changed to be equal (on the port used to connect the hardware).

Note that a GPI script file should be declared in the configuration page. If this is not yet present, a "file not found" error message will appear until it is written.

NOTE: GPI and GPO column list equivalent conversion/connection to older type P14639 GPO and GPI PCB's

Sorted by pin					Sorted by function				
Pin	Function	Note	GPO	GPI	Function	Pin	Note	GPO	GPI
1	GPO 13A			28	+5V	49			
2	GPO 12A			26	+5V	50			
3	GPO 11A			24	0V	51			COM*
4	GPO 10A			22	0V	52			
5	GPO 09A			20	0V	53			
6	GPO 08A			16	0V	54			
7	GPO 07A			14	0V	55	Midi (out)		DIN 2
8	GPO 06A			12	0V	58	Midi (thru)		DIN 2
9	GPO 05A			10	GPI01	21		3	
10	GPO 04A			8	GPI02	42		42	
11	GPO 03A			6	GPI03	20		7	
12	GPO 02A			4	GPI04	41		41	
13	GPO 01A			2	GPI05	19		11	
14	GPI 15		33		GPI06	40		13	
15	GPI 13		29		GPI07	18		15	
16	GPI 11		25		GPI08	39		17	
17	GPI 09		21		GPI09	17		21	
18	GPI 07		15		GPI10	38		23	
19	GPI 05		11		GPI11	16		25	
20	GPI 03		7		GPI12	37		27	
21	GPI 01		3		GPI13	15		29	
22	GPO 13B			29	GPI14	36		29	
23	GPO 12B			27	GPI15	14		33	
24	GPO 11B			25	GPI16	35		35	
25	GPO 10B			23	GPO 01A	13			2
26	GPO 09B			21	GPO 01B	34			3
27	GPO 08B			17	GPO 02A	12			4
28	GPO 07B			15	GPO 02B	33			5
29	GPO 06B			13	GPO 03A	11			6
30	GPO 05B			11	GPO 03B	32			7
31	GPO 04B			9	GPO 04A	10			8
32	GPO 03B			7	GPO 04B	31			9
33	GPO 02B			5	GPO 05A	9			10
34	GPO 01B			3	GPO 05B	30			11
35	GPI 16		35		GPO 06A	8			12
36	GPI 14		29		GPO 06B	29			13
37	GPI 12		27		GPO 07A	7			14
38	GPI 10		23		GPO 07B	28			15
39	GPI 08		17		GPO 08A	6			16
40	GPI 06		13		GPO 08B	27			17
41	GPI 04		41		GPO 09A	5			20
42	GPI 02		42		GPO 09B	26			21
43	GPO 14A			30	GPO 10A	4			22
44	GPO 14B			31	GPO 10B	25			23
45	GPO A15			32	GPO 11A	3			24
46	GPO B15			33	GPO 11B	24			25
47	GPO 16A			34	GPO 12A	2			26
48	GPO 16B			35	GPO 12B	23			27
49	+5V				GPO 13A	1			28
50	+5V				GPO 13B	22			29
51	0V		DIN		GPO 14A	43			30
52	0V				GPO 14B	44			31
53	0V				GPO 16A	47			34
54	0V				GPO 16B	48			35
55	0V	Midi (out)	DIN	2	GPO A15	45			32
56	MIDIOUT-		DIN	5	GPO B15	46			33
57	MIDIOUT+		DIN	4	MIDIIN-	61		DIN	5
58	0V	Midi (thru)	DIN	2	MIDIIN+	62		DIN	4
59	MIDITHRU-		DIN	5	MIDIOUT-	56		DIN	5
60	MIDITHRU+		DIN	4	MIDIOUT+	57		DIN	4
61	MIDIIN-		DIN	5	MIDITHRU-	59		DIN	5
62	MIDIIN+		DIN	4	MIDITHRU+	60		DIN	4

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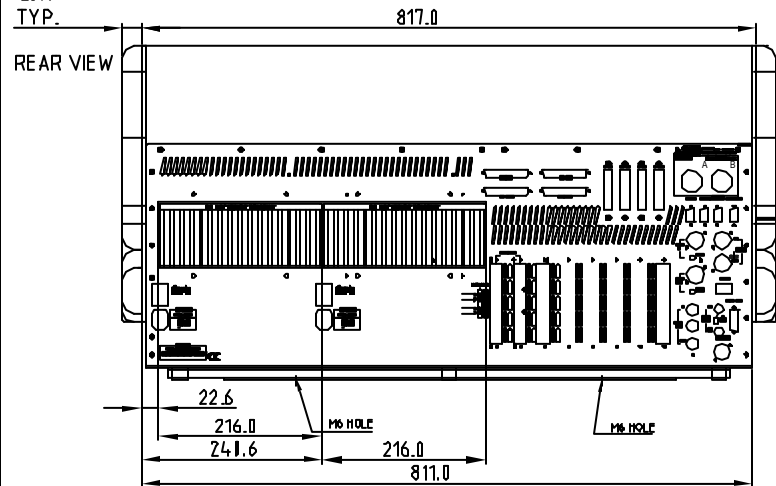
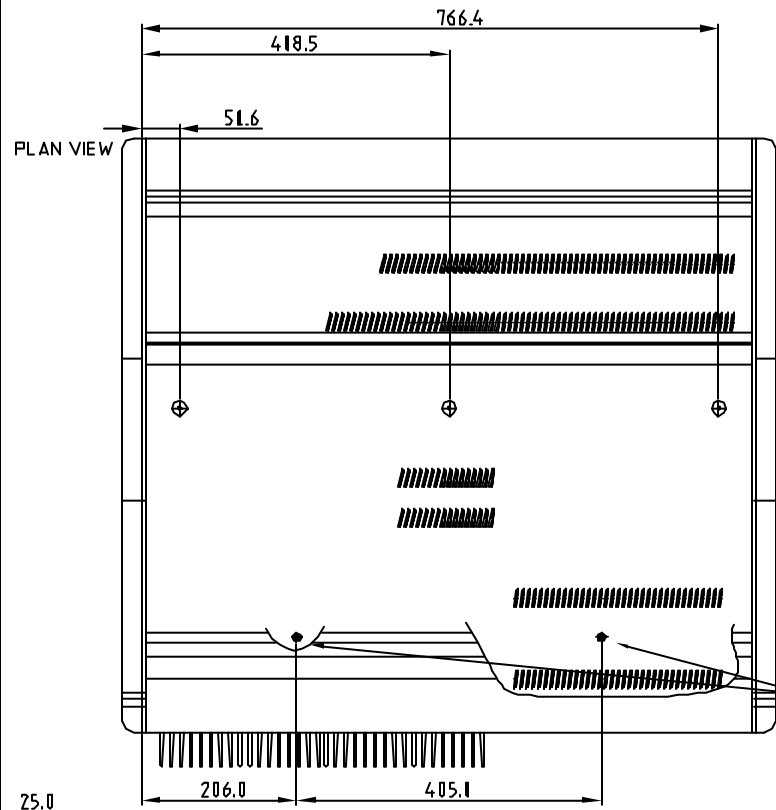
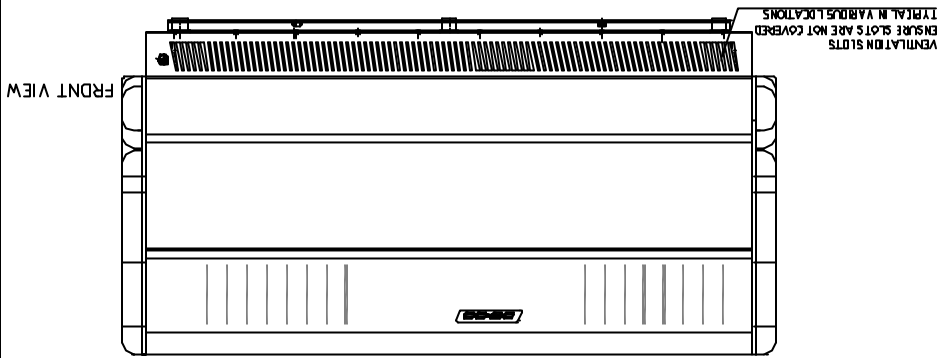
Worksurface Connections 5

THIRD ANGLE PROJECTION REMOVE ALL BURRS & SHARP EDGES

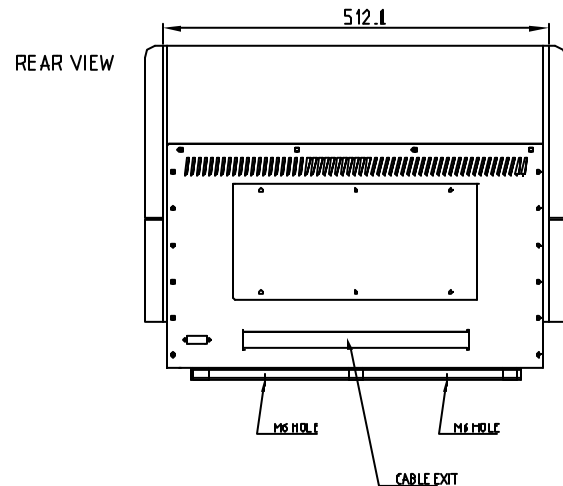
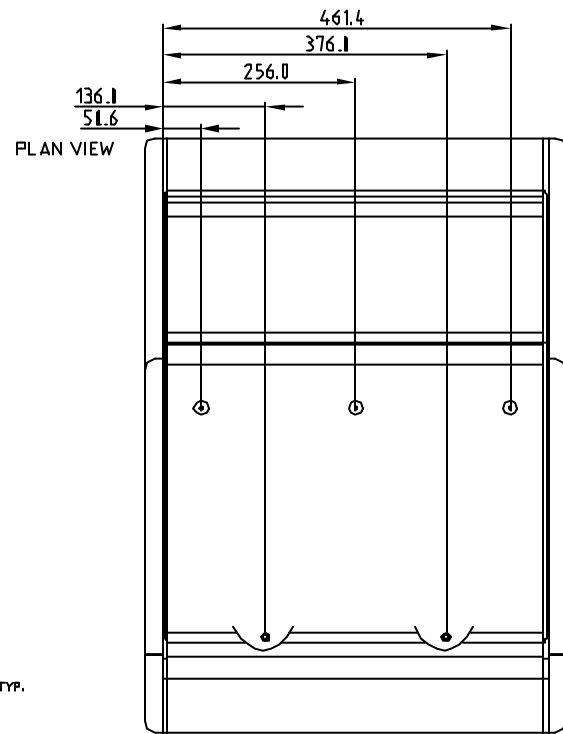
IF IN DOUBT ASK!

VIEW WITH WORKSURFACES, INTERNAL PARTS REMOVED AND VARIOUS EXTRUSION CUT AWAY TO SHOW VENTS, FEET AND SECURING FIXINGS

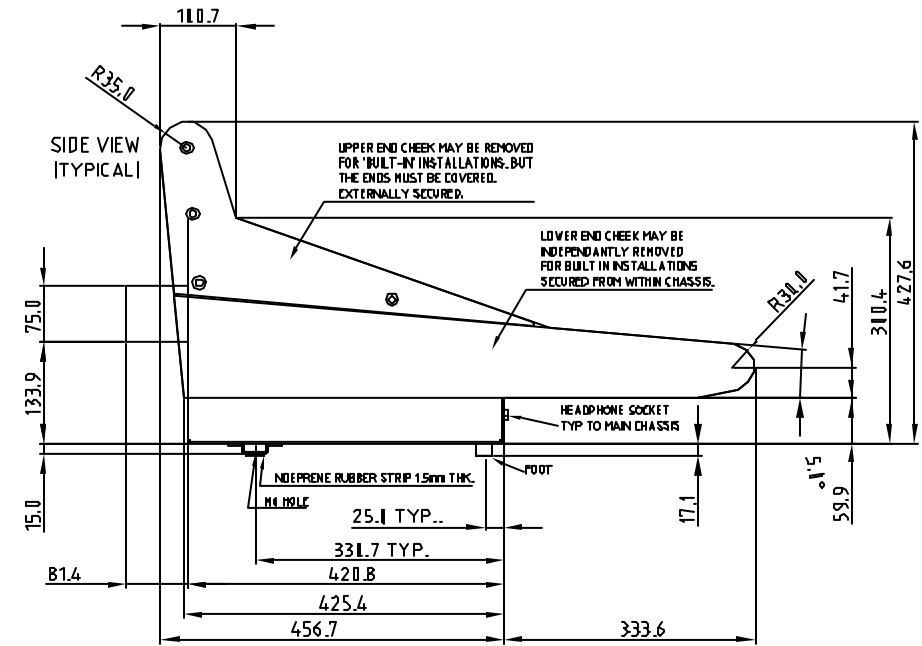
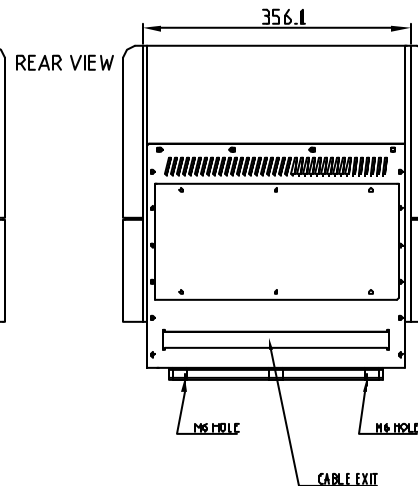
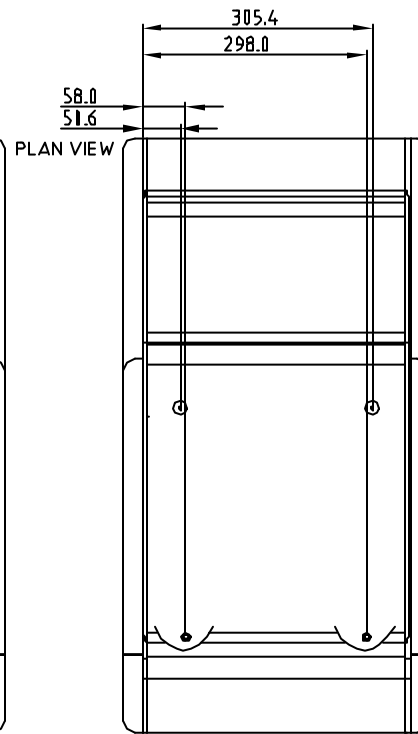
DS-00 MAIN CHASSIS



DS-00 FP & HD CHASSIS



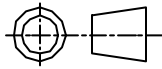
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OUTLINE DRAWING DS00 SHEET 1 OF 3
DRAWING NUMBER 14894-1-P1

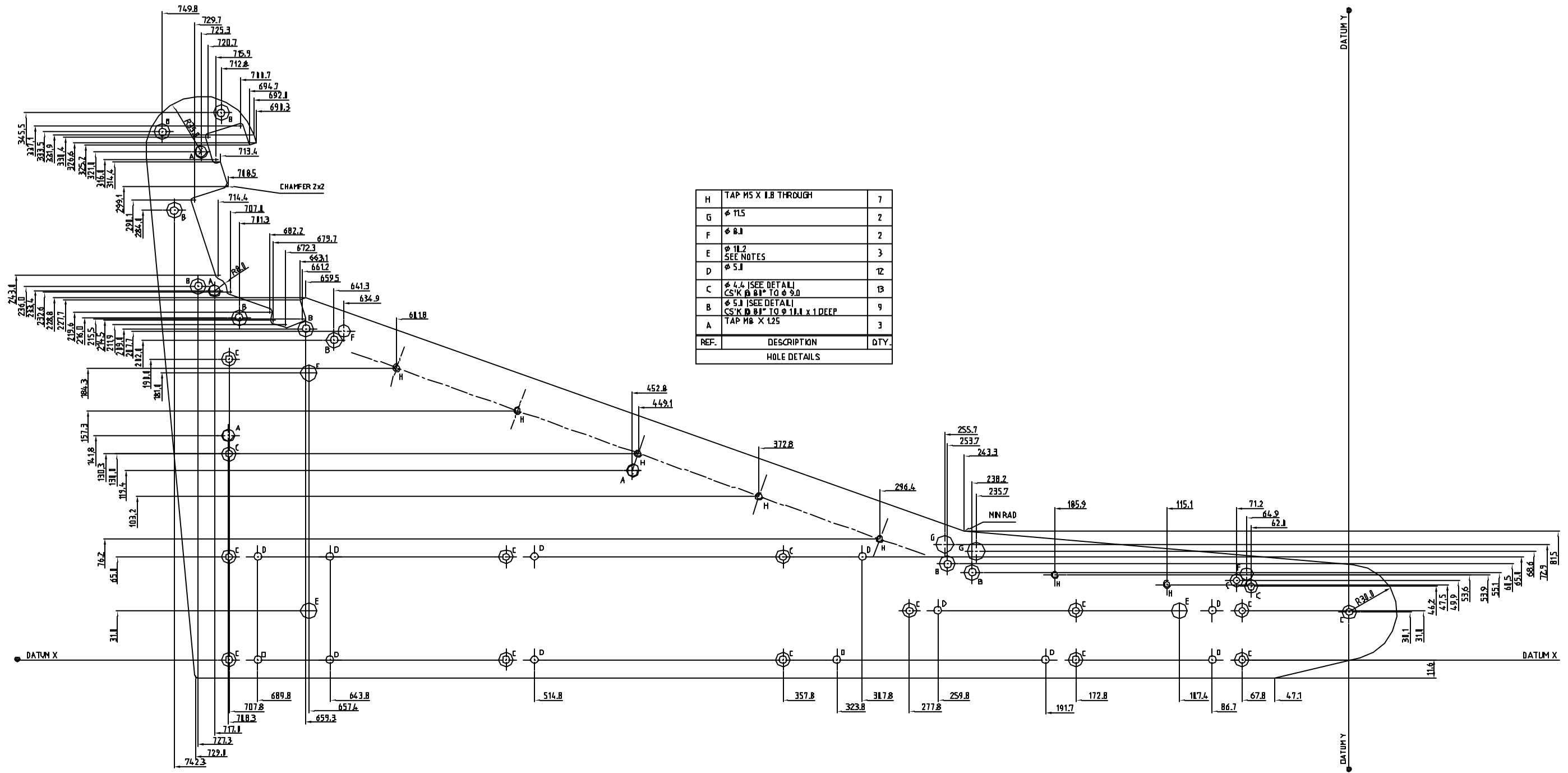
FURTHER INFORMATION AVAILABLE ON REQUEST.

THIRD ANGLE PROJECTION REMOVE ALL BURRS & SHARP EDGES



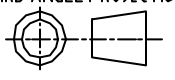
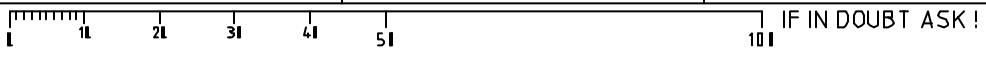
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 IF IN DOUBT ASK!

DS-00 END CHEEK HOLE CO-ORDINATES.

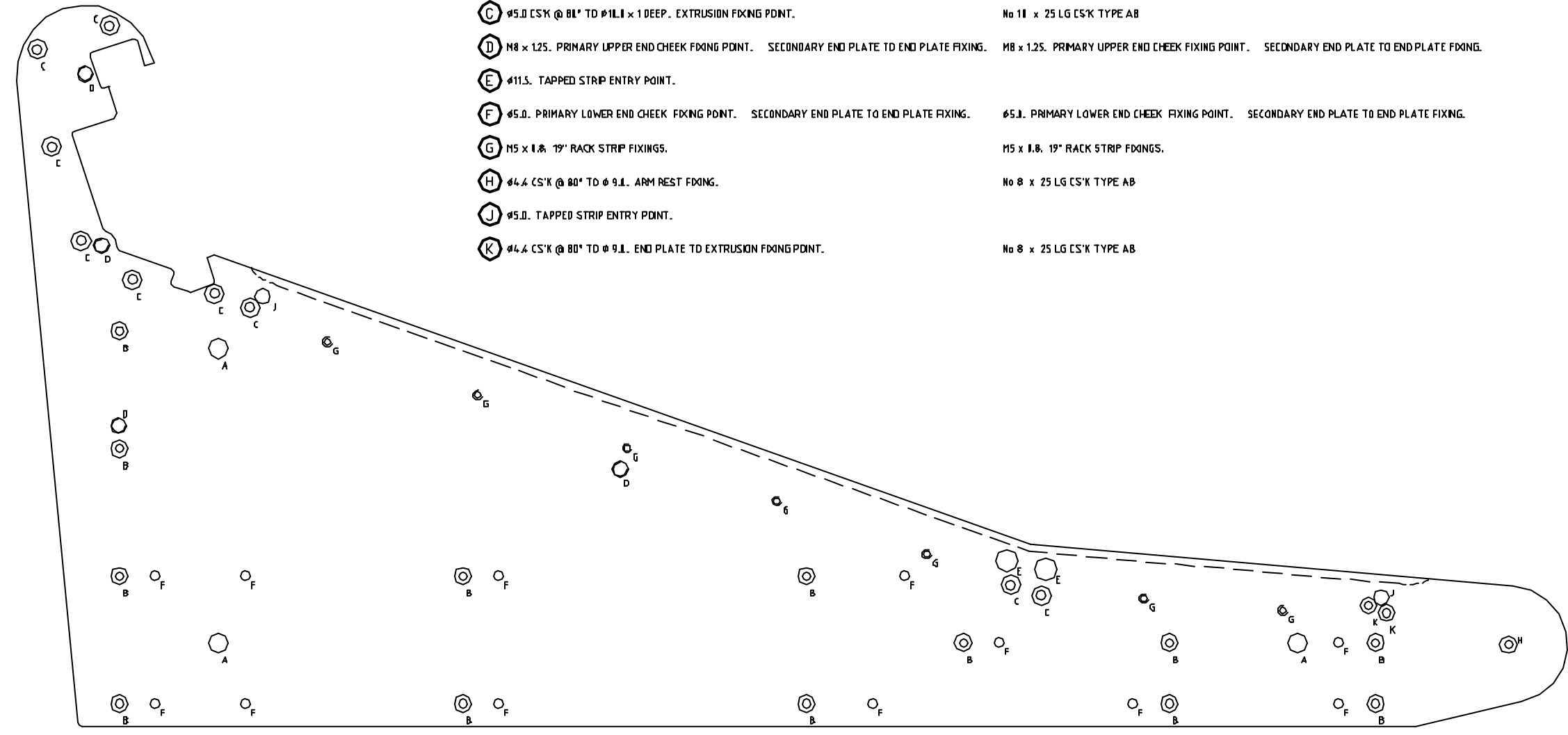


OUTLINE DRAWING DS00 SHEET 2 OF 3
 DRAWING NUMBER 14894-2-P1

THIRD ANGLE PROJECTION REMOVE ALL BURRS & SHARP EDGES



DS-00 END CHEEK HOLE DESIGNATION.



- (A) Ø11.1. END PLATE TO END PLATE LOCATION / FIXING POINT.
- (B) Ø4.4 CS'K @ 80° TO Ø 9.1. END PLATE TO CHASSIS FIXING POINT.
- (C) Ø5.0 CS'K @ 81° TO Ø11.1 x 1 DEEP. EXTRUSION FIXING POINT.
- (D) M8 x 1.25. PRIMARY UPPER END CHEEK FIXING POINT. SECONDARY END PLATE TO END PLATE FIXING.
- (E) Ø11.5. TAPPED STRIP ENTRY POINT.
- (F) Ø5.0. PRIMARY LOWER END CHEEK FIXING POINT. SECONDARY END PLATE TO END PLATE FIXING.
- (G) M5 x 1.8. 19° RACK STRIP FIXINGS.
- (H) Ø4.4 CS'K @ 80° TO Ø 9.1. ARM REST FIXING.
- (J) Ø5.0. TAPPED STRIP ENTRY POINT.
- (K) Ø4.4 CS'K @ 80° TO Ø 9.1. END PLATE TO EXTRUSION FIXING POINT.
- Ø11.1. END PLATE TO END PLATE LOCATION / FIXING POINT.
- M4 ON CHASSIS
- No 11 x 25 LG CS'K TYPE AB
- M8 x 1.25. PRIMARY UPPER END CHEEK FIXING POINT. SECONDARY END PLATE TO END PLATE FIXING.
- Ø5.1. PRIMARY LOWER END CHEEK FIXING POINT. SECONDARY END PLATE TO END PLATE FIXING.
- M5 x 1.8. 19° RACK STRIP FIXINGS.
- No 8 x 25 LG CS'K TYPE AB
- No 8 x 25 LG CS'K TYPE AB