[User's Manual]

MSD/PT0600C-5.1
MSD/PT0600C-III
MSD/PT0200C

MASTER STEREO DISPLAY

Technical Reference Manual

PTV

DK-AUDIO

www.dk-audio.com

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1. Introduction

Congratulations! By purchasing a Master Stereo Display (MSD) from DK-Audio you have decided to actually "See What You Hear". We are certain that your Master Stereo Display will prove an invaluable tool in your daily work.

If you have any suggestions or points of view for future functions or options, we welcome your comments. Please write to DK-Audio at the address on the rear page of this manual, or call +45 44 85 02 55. You can also use the enclosed Registration Card to send us your remarks and observations. Your Registration Card is also the easiest way for you to receive up-to-date information from DK-Audio on future Master Stereo Display products. Please also check our website at www.dk-audio.com!

1.1 This Manual

This manual is an addendum to the Software User's Manual covering all aspects of the MSD Operating System. In this manual all model specific information can be found. This includes mechanical dimensions, electrical specifications, hardware descriptions, mounting descriptions, flow-charts, factory presets and pin-out descriptions.

- For any question regarding the operation of the MSD unit, please refer to the Software User's Manual

At time of press (2002) this manual covers the following MSD models:

MSD600C-III, MSD600C-5.1, MSD200C, PT0600C-III, PT0600C-5.1 and the PT0200C.

All through this manual any of the supported models will be referred to simply as the MSD.

2. The Audio Matrix

The Audio Matrix function of the MSD has become the very heart of the unit. Almost all parameter settings originate from the Matrix.

The MSD features a full 32 x 16 Audio Matrix. Depending on the configuration of the actual MSD model the available Inputs and Outputs can be assigned from the Audio Matrix Menu.

Any input channel may be routed to any output, including separate Left/Right channels of an AES-3 stream. Any function on the MSD is treated as an Output and is assigned an input from the Audio Matrix just like any other physical Output source. There are therefore no restrictions to the routing of a signal.

The different supported MSD models are configured as follow:

	MSD-Series		
	MSD200C PT0200C	MSD600C-III PT0600C-III	MSD600C-5.1 PT0600C-5.1
Interface:			
Analogue Stereo Inputs	1	1	-
Analogue Stereo Outputs	1	1	-
Digital AES-3 Inputs	1	2	3
Digital AES-3 Outputs	1	2	-

- Please refer to section 17 for a complete set of Audio Matrix flowcharts for all supported models

3. External Synchronisation and the Sample Rate Converter (SRC)

The MSD has been designed to run on a fixed internal sample rate at 48 kHz. However the user can force the MSD to synchronise to any of the available AES-3 Inputs.

- Please refer to section 18 for a complete set of Synchronisation flowcharts for all supported models

Since the unit's internal sample rate also determines the AES output sample rate you can use the external sync feature to synchronise the AES outputs sample rate. For details on how to set up the MSD for external synchronisation please see section 8.2.4.1 "SRC Bypass and external sync" in the software manual. It is normal that professional audio equipment such as mixing consoles are fitted with sample rate converters in their AES input stage. In these cases it is not necessary to synchronise the AES output signal.

When an external sync source has been selected, the MSD will sync to this input whether a valid sync signal is present or not. If no valid signal is detected an error warning will be displayed on the MSD.

Even though the MSD is able to lock up to AES-3 signals at 96 kHz, an external AES-3 sync signal with a sampling rate higher than 48 kHz should not be used, as it may cause glitches in the audio stream.

Synchronising to a lower sample rate than 48 kHz (like 44.1 kHz) will not be a problem. It is however

not recommended to sync to an external sync source lower than 44.1 kHz since this will effect the ballistics of the MSD's meter functions.

When using the MSD with one of the DMU scales (which are true peak scales) it is recommended that the MSD SRC's used are in Bypass mode. The reason is that the SRC under certain situations effects the peak value of the input signal.

In all other PPM Scales where the displayed level is based on the energy of the signal and not the true peak value, the SRC will not effect any measurements.

4. Hardware

The MSD has been designed with the very best technology available today ensuring superb performance, high flexibility and an outstanding audio performance.

4.1 Analogue Audio Inputs

The Analogue Input is designed around a 24-bit Analogue-to-Digital converter (ADC) AKM®. This converter, the AK5383, is using AKM's high performing dual bit S/D conversion type to obtain a dynamic range close to 110 dB. Combined with a transformer-balanced input stage it forms a very high performance Input stage. The analogue input on all supported MSD models is able to handle +24 dBm input signal.

4.2 Digital Audio Inputs

All supported MSD models are using the same Digital Audio Input circuit designed around the Cirrus Logic® AES-3 receiver chip, the CS8420. This AES-3 receiver has not only become an industry standard but also contains the Sample Rate Converter (SRC) used by the MSD. The SRC ensures correct synchronisation of all AES-3 input sources, making it possible to source to several asynchronous AES-3 streams simultaneous.
The CS8420 is able to lock on any sample rate between 32 kHz to 96 kHz and convert it to the used internal sample rate of 48 kHz (when no external sync source is used).
The Input stage to the AES receiver is transformer-balanced according to the AES specifications. This AES-3 Input stage will generally also interface to the consumer S/P Dif format when grounding one of the balanced AES-3 input terminals. However, since the signal level (eye-pattern) of a S/P Dif is not compatible with the AES-3 specifications, there is no guarantee for an error free reception.

4.3 Analogue Audio Output

The Analogue Output are designed around the AK4324 24-bit Digital-to-Analogue converter (DAC) from AKM®. This converter of the S/D type, ensures an amazing dynamic range of 115 dB. The analogue outputs are electrically balanced and are able to output a +18 dBm signal level.

4.4 Digital Audio Output

The Digital AES-3 Output is a true transformer-balanced output specified by AES. The actual AES encoding is done by the Cirrus Logic® AES-3 transceiver chip, the CS8420.
The AES-3 outputs will always be synchronous to the used master clock, which either can be driven from the external sync input or from the internal 48 kHz clock oscillator.
Combined with the SRC on the AES-3 input this arrangement enables the MSD's to be used as a high performance SRC taking an AES-3 input signal of any arbitrary sample rate between 32 kHz to 96 kHz and convert it to the internal used sample rate.

4.5 External Sync Source Input

All supported MSD models are able to use any of the available AES-3 inputs as an External AES-3 Sync Input. This is a huge advance since no dedicated Sync inputs are required.
The MSD can be set to synchronise to an AES-3 signal in the range 32 kHz to 50 kHz.

4.6 DSP Microcomputer

The MSD data processing is entirely based on a very powerful Digital Signal Processing (DSP) chip, a so called DSP (Digital Signal Processor) Micro computer. By using DSP all errors with ballistic and scaling found on older analogue VU-Meter based equipment is virtually eliminated.
The Software Version referred to in the Info Menu is the software running on this DSP Microcomputer.
The used DSP is a 52 MIPS version of the Analogue Devices® ADSP-2183, a single-chip microcomputer, optimised for digital signal processing (DSP), and other high-speed numeric processing applications. The computer has

16 K-words of (16-bit) data memory RAM, and
16 K-words of (24-bit) program memory RAM,
on-chip.

4.7 Flash-PROM (Program Storage Media)

All programs executed by the DSP Microcomputer are stored in a FLASH-PROM integrated circuit. The flash-prom configuration allows new software versions to be downloaded via the RS232 serial communication port.

4.8 LCD Display

The MSD600M is fitted with the very best in LCD display technology: A high-quality, 640 (horizontal) x 480 (vertical) pixel, full-colour TFT LCD display with extra high contrast and viewing angle. The display has a dual tube cold cathode (CCFT) installed inside the unit for background illumination with an expected lifetime of approximately 50,000 hours. The display is controlled directly from the DSP using a Display Driver design developed by DK-Audio.
There are several suppliers of TFT VGA displays with a very high variation in quality. DK-Audio is only using the very best TFT technology available today. These are a bit more expensive than commonly used LCD displays but so much better. Remember: “You See What You Hear”!

NOTE:
LCD pixels turn black or radiate different colours.
The LCD is constructed with precision technology so 99.99% of the pixels are active, but of the remaining 0.01%, there are pixels that may be black or emit light constantly in a fixed colour. This phenomenon is not a malfunction and are therefore not covered by the 2-year factory warranty

4.9 Hardware ID

All Newer models of the MSD product family have been designed around a single common operation system (OS). To enable this OS to detect which MSD model it is running on, each MSD is equipped with a unique Hardware ID code.

This number can be found in the Info Menu of the MSD.

MSD versions covered in this technical manual have been assigned the following hardware ID codes:

MSD Model:	**ID Code:**
MSD200C/PT0200C	0242
MSD600C-III/PT0600C-III	0263
MSD600C-5.1/PT0600C-5.1	0253
MSD600M	0100*)

*) not covered by this manual

Under normal conditions the user should not be concerned about the function of this ID.

4.10 Power Supply

All supported MSD models are using an external power supply of the desktop type. This enables the MSD itself to be more compact for easy instalment. The power supply is based on the switch-mode principle. Power input is through the 9-pin DSUB Utility connector found at the rear of the unit.

- Recommended supply voltage range is 12-24V DC 24W

NOTE: High Voltage! Special care must be taken in a service or maintenance situation, as 600V AC is present on the PCB.

5. Mounting

The supported MSD models are divided into two groups. The PT versions (PT0200C, PT0600C-III and PT0600C-5.1) designed for 19” rack mounting and the free standing MSD models.

The PT versions are all equipped with four brass springs mounted on the back of the unit. These springs will fix the MSD in the 19” mounting rack with enough force to ensure a permanent installation. The MSD has been engineered to fit in both a Philips and a Tektronix 19” Instrument rack.
DK-Audio offers a 19” instrument rack extension bracket that extends the depth of the MSD to match CRT based equipment normal used together with the MSD. This extension can also be configured to work as the breakout cable for the MSD as well as a holder for the desktop power supply. Please visit our homepage at www.dk-audio.com for more information regarding this extension bracket.

The remaining three MSD models are designed to fit into the supplied free standing mounting bracket, making it easy to mount the unit on top of any console or desk. The bracket makes it possible to adjust the unit both horizontally and vertically for the best viewing position. To mount the MSD in as flexible a manner as possible, always use the supplied base-plate supplied with the mounting bracket.
When purchasing a model MSD200C, MSD600C-III or MSD600C-5.1 enclosed fittings for mounting are:

1 x bracket (U-form), 1 x circular base-plate, 3 x finger screws with star-washers. Desk or console mounting screws are not supplied, contact your desk or console manufacturer if in any doubt as to mounting procedure.

For best viewing angle horizontal and vertical positioning please follow these mounting guidelines: Screw the base-plate to your console or work surface using two 4 mm wood screws (or an appropri-

ate alternative, depending upon the material). Place the bracket on top of the base-plate and secure using one of the supplied finger screws with a star-washer. Now fix the MSD to the bracket with the two remaining finger screws. Insert the supplied star-washers between the bracket and cabinet. This allows the MSD to be turned both horizontally and vertically for the best viewing angle.

Mounting the MSD only allowing it to be turned vertically: Screw the bracket directly to your console or work surface using two 4 mm screws (or an appropriate alternative, depending upon the material).

- When mounting, make sure to allow enough loose cable for the unit to be tilted and turned

6. Audio Connections - Breakout Cable

The MSD is connected to your audio sources via a standard 25-pole DSUB socket on the rear of the unit. A standard breakout connection cable is available from DK-Audio for each of the three MSD configurations supported. The breakout cables have all the necessary DSUB connectors to XLR (audio in/out) connectors.

Diagrams for all available breakout cables are available on our web site www.dk-audio.com. Detailed information regarding the Pin-outs on the various DSUB connectors is available later in this manual. See section 13.

- Refer to section 14-16 “Factory Presets 0-9” for detailed description on how to connect input/output modules matching the MSD factory presets

CAUTION: Do not swop the input and output connectors!

7. Precautions

Please observe the following guidelines for a longer, trouble-free life for your MSD:

- Never operate the unit while opened, as the high voltage (600V AC) applied to the LCD background illumination is dangerous
- Avoid getting the unit wet or humid, since water will create leakage currents on the PCB board and may damage the circuitry
- As the LCD display and backlight elements are made from fragile glass material, impulse and pressure to the screen should be avoided
- Do not touch the display surface or stain it. As the surface of the polarizer is very soft and easily scratched, only use a soft dry cloth without chemicals for cleaning
- Do not allow water or liquids to remain on the surface for long. This may cause local deformation or discoloration
- If the LCD breaks, and the liquid crystal runs out, keep it well clear of your mouth and eyes. If it sticks to your skin or clothes, wash it off immediately with soap and water
- Do not touch or handle the PCB without first touching the chassis (ground) due to ESD (electro-static discharge)
- Remove all cable connections before inserting new modules
- Do not operate in temperatures over 40° Celsius, 120° Fahrenheit

CAUTION!

- Before removal of the housing, disconnect the power supply
- Never apply power while the housing is removed
- Never apply power while inserting/extracting modules

8. Presets

The MSD comes with 11 user configurable presets. 5 of these presets are factory configured on delivery of your MSD. Select the preset closest to your individual use of the MSD. The screen automatically adjusts to the selected number of PPM channels.

If any change has to be made to a preset please refer to the Audio Matrix Menu in the Software User's Manual for details on how to re-assign input (sources) and outputs (destinations).

None of the factory configured presets is using the Analogue/Digital output.

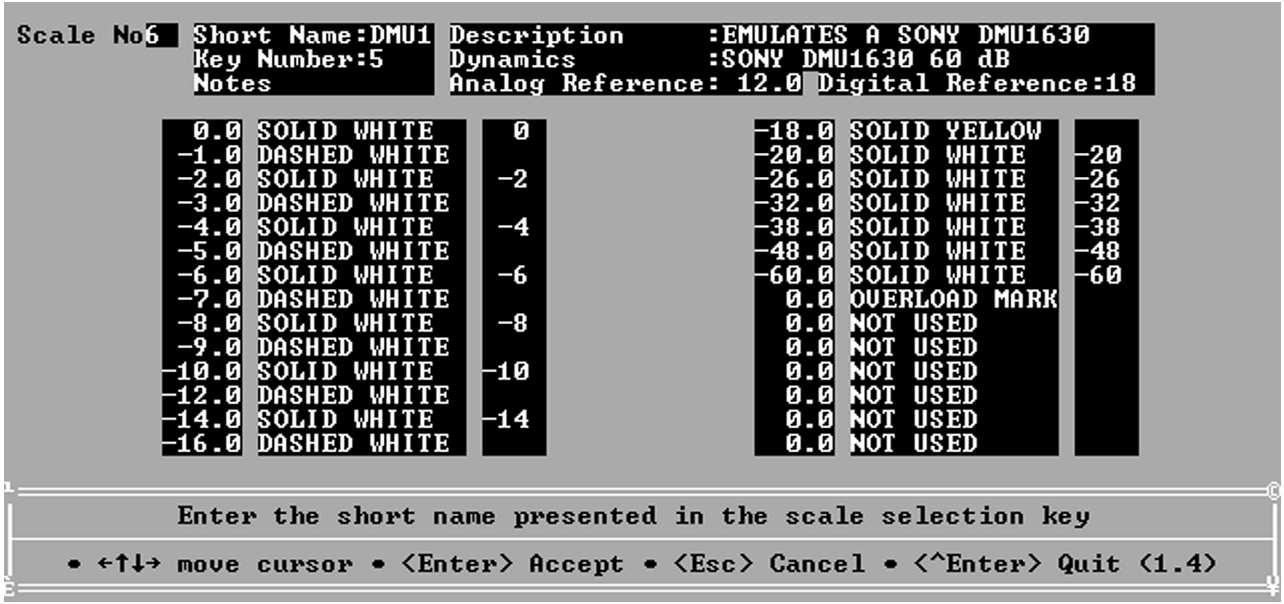
Below is listed a factory preset selection chart for all the supported MSD models.

Supported Model: MSD200C, MSD600C-III, PT0200C, PT0600C-III			
Preset #	Preset Name	Description	Source Ana/Dig
0	BASE SETUP	This is the default (power up) setting, and can be user-changed [by special procedure only]	Ana/Dig
1	ANALOGUE	All PPM are set to the analogue mode	Ana
2	DIGITAL	All PPM are set to the digital mode	Dig
3	ANALOGUE+MS	All Analogue setup with Sum/Diff	Ana
4	DIGITAL+MS	All Digital setup with Sum/Diff	Dig
5	USER	User definable	Ana/Dig
6	USER	User definable	Ana/Dig
7	USER	User definable	Ana/Dig
8	USER	User definable	Ana/Dig
9	USER	User definable	Ana/Dig
10	USER	User definable	Ana/Dig

Supported Model: MSD600C-5.1, PT0600C-5.1			
Preset #	Preset Name	Description	Source Ana/Dig
0	BASE SETUP	This is the default (power up) setting, and can be user-changed [by special procedure only]	Dig
1	5.1 LCR	5.1 Surround Sound (Left, Centre, Right)	Dig
2	5.1 LRC	5.1 Surround Sound (Left, Right, Centre)	Dig
3	DIGITAL 1+2	All Digital Input. Vector Scope monitor AES-1	Dig
4	DIGITAL 3+4	All Digital Input. Vector Scope monitor AES-2	Dig
5	DIGITAL 5+6	All Digital Input. Vector Scope monitor AES-3	Dig
6	USER	User definable	Dig
7	USER	User definable	Dig
8	USER	User definable	Dig
9	USER	User definable	Dig
10	USER	User definable	Dig

For more detailed information regarding the factory configured presets please refer to section 14 in this Manual!

9. The “DK-SCALE” PC-Software Program



Since the number of available international scales exceeds the seven scales available directly from the MSD, the DK-Scale PC-Software Program has been developed to enable the user to download his own personal scale arrangement from a large library of various international scales.

Many of the features found in the PPM section of the MSD is implemented in the DK-Scale program. In addition to giving the user the freedom of choosing specific scales from the library, it also gives the opportunity to design your own scale.

The DK-Scale program is a DOS program, but can be run from inside a DOS-box in most Windows versions.

The DK-Scale program is shipped with the MSD on a standard HD floppy disk. However, it may also be downloaded from DK-Audio's website at www.dk-audio.com.

The separate User's Manual for the "DK-SCALE" program is also enclosed with the unit. Please refer to this manual for the following functions: Selection, Modification, Downloading of PPM scales, Changing Key Names, Changing Ballistics and Creating Your Own Scale.

10. Software Upgrade

To upgrade the MSD with the latest software versions, connect the RS232 port of the MSD (found on the rear of the unit) to a PC via the COM1 or COM2 port.

New software direct from DK-Audio will be supplied on a standard HD floppy disk or may also be retrieved directly from the Internet at the DK-Audio website www.dk-audio.com.

10.1 COM Port Selection

The COM port you wish to use to communicate with the MSD must be selected on your PC. If you use COM1, type “SET MSD-LOAD=1” at the DOS-PROMPT. If you use COM2, type “SET MSD-LOAD=2”. If a COM port has not been set the update program will abort.

The command “SET MSD-LOAD” is valid only for the actual DOS-box. This means that the update program must be executed from the same DOS-box as the SET-command without prior closing.

10.2 Update Procedure

While in the DOS-PROMPT mode in the correct directory for MSD update software (for example directory C:\) type “xxxx.BAT” and then **[ENTER]**. This will download the new software from the PC to the MSD. The new software version number will be shown in the INFO menu.

Make sure that you do not strike any key on the MSD while the PC is downloading software.

CAUTION! Do not interrupt the program while downloading to the MSD, as this may cause damage to the software. It is therefore advisable to shut down all other programs during download.

11. Appendix A: Specifications

Technical Specifications		
PPM Analogue references	**Value**	**Note**
Indication	0 dBu	
Input Voltage	1.55V	
PPM Scales		
Dynamic response		
Pflichtenhft 3/6	3 ms / -3 dB	
IEC 268-10	5 ms / -2 dB	
IEC 268-17	VU: 300 ms	
Return (fallback) time		
Pflichtenhft 3/6	20 dB / 1.5 s	
IEC 268-10	20 dB / 2.0 s	
Division of scales		(More scales are available through the DK-scale program)
Type I	-42 dB to +12 dB	
Type IIA	+1 dB to +7 dB	
Type IIB	-12 dB to +12 dB	
Type DIN	-50 dB to +5 dB	
Type VU	-20 dB to +3 dB	
Type DMU-1	-60 dB to 0 dB	
Type DMU-2	-6.0 dB to 0 dB	
Phase Correlation Meter		
Indication range	+1 to -1	
Audio Vector Oscilloscope		
Automatic gain offset range	30 dB	Default
Phase error between channels	None	

Technical Specifications		
Cabinet Dimensions	**Value**	**Note**
Width	186 mm	+ mounting nuts @ 4 mm
Height	144 mm	Without mounting bracket
Depth	36 mm	Without Connectors
Cabinet Dimensions		
(PT, 19” Rack versions)		
Width	214 mm	
Height	133 mm	
Depth	41 mm	
Power Supply		
Supply Voltage range	12-24V DC	
DC Power consumption	Approx. 18 W	@12V nominal supply
Safety according to	IEC 65	
LCD Display		
Resolution in dots	640 x 480	
Pixel Size	0.2 mm	
Lifetime (hours)	50,000	
Contrast ration	100:1	
Viewing area	135 x 100 mm	
Luminance	300 cd/m	
Working Condition		
Temperature range	0°C to 45°C	
Maximum Input Level	90V RMS	Continuous

Technical Specifications (Preliminary)		
Analogue Input: (1)	**Value**	**Note**
Maximum Input Level	>+24 dBm	
Sample Rate (Internal Sync)	48 kHz	
Sample Rate (External Sync)	32 kHz – 50 kHz	
Bit Resolution	24 Bit	
Frequency Response	10 Hz – 21 kHz	-3 dB @ 48 kHz
Frequency Response	± 0.3 dB	30 Hz ~ 20 kHz
Pass-band Ripple	± 0.002dB	
Group Delay	< 0.82 mSec	
Dynamic Range	>103 dB	A-Weighted
Cross Talk	>96 dB	@ 1 kHz
S/(N+D) (@ -1 dBFS)	(typ) 93dB	
Nominal Input impedance	>20 kOhm	
Analogue Output: (1)		
Maximum Output Level	>+18 dBm	@ 600 Ohm
Sample Rate (Internal Sync)	48 kHz	
Sample Rate (External Sync)	30 kHz – 50 kHz	
Bit Resolution	24 Bit	
Frequency Response	10 Hz – 21 kHz	-3 dB @ 48 kHz
Frequency Response	± 0.3dB	30Hz ~ 20 kHz
Passband Ripple	± 0.007dB	
Group Delay	< 0.21 mSec	
Dynamic Range	>101dB	A-Weighted
Cross Talk	>96 dB	@ 1 kHz
THD+N (1 kHz, @ -1 dBFS)	93 dB	Typical
Nominal Output impedance	<5 Ohm	

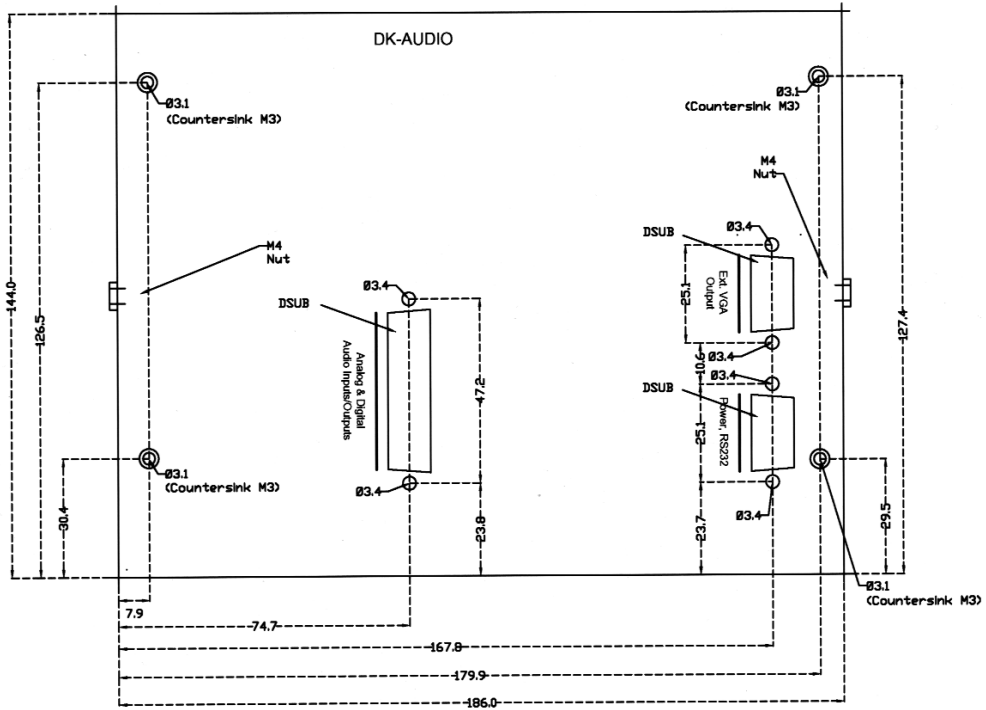
Technical Specifications		
AES Interface: (2)	**Value**	**Note**
Input Sample Rate Converter (3)	Yes	
Sample Rate Range	30 Hz – 100 kHz	
Default Internal Sample Rate	48 kHz	
Synchronisation to external sample rate	(3)	Yes
Bit Resolution	24 Bit	
Group Delay	1.75 mSec	Maximum
Passband Ripple	± 0.008 dB	
THD+N (1 kHz, @ -1 dBFS)	103 dB	Typical
Dynamic Range	>120 dB	
Nominal Input impedance	110 Ohm	Typical
Nominal Output Impedance	110 Ohm	Typical

(1) Measured with default condition at 48 kHz internal sample rate. Used unless other is mentioned.

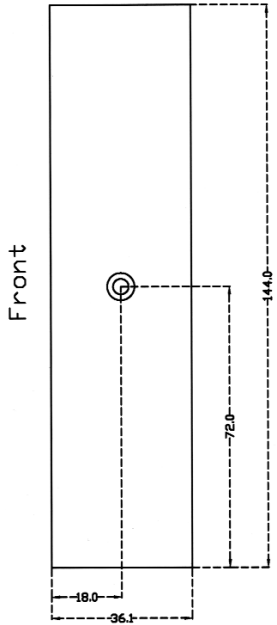
(2) Measured with default condition at 48 kHz internal sample rate and Sample Rate Converter Enabled. Used unless other is mentioned.

(3) The Input Sample Rate Converter function is optional and can be bypassed. When doing so attention must be taken to obtain synchronisation between internal sample rate and incoming sample rate. To do this the MSD unit can be set to sync to the dedicated external AES-3 sync input found in the utility connector.

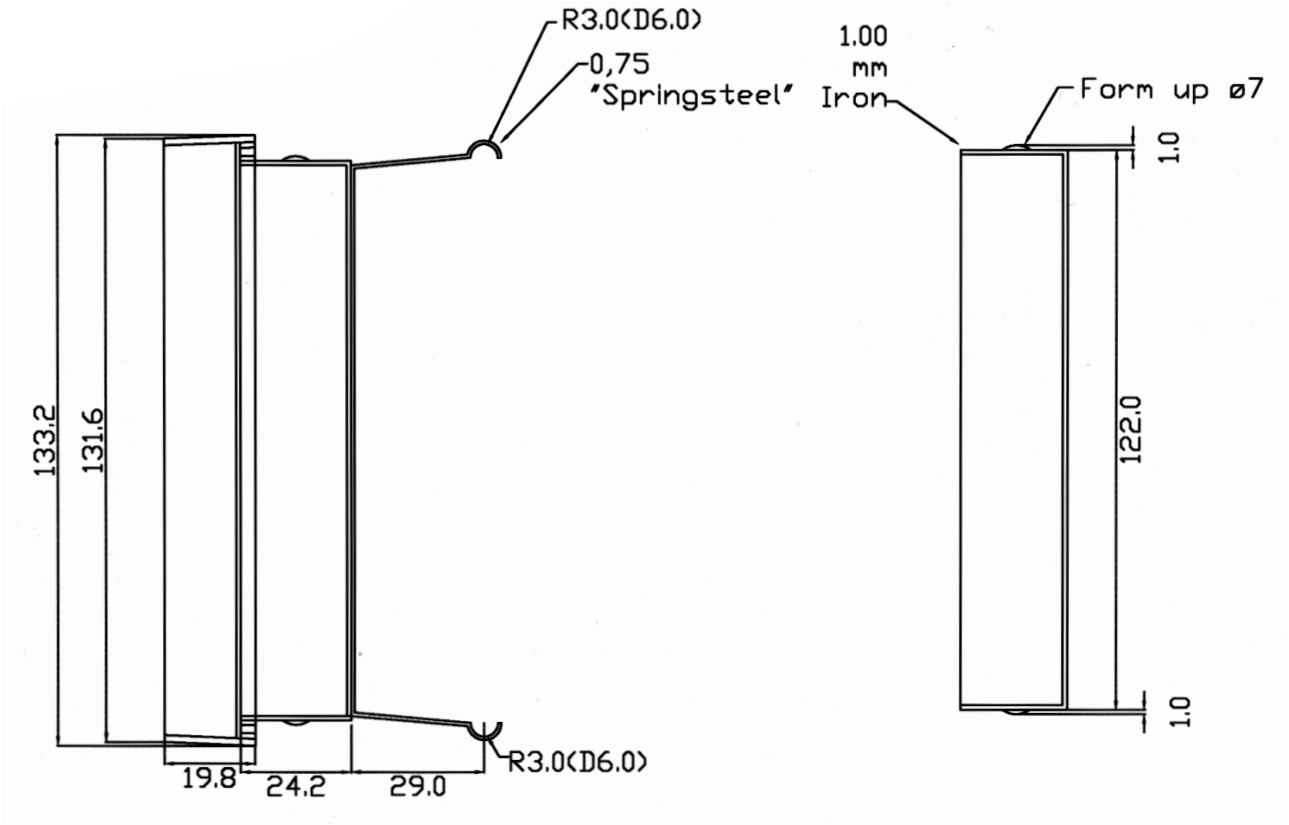
12. Appendix B. Mechanical Dimensions



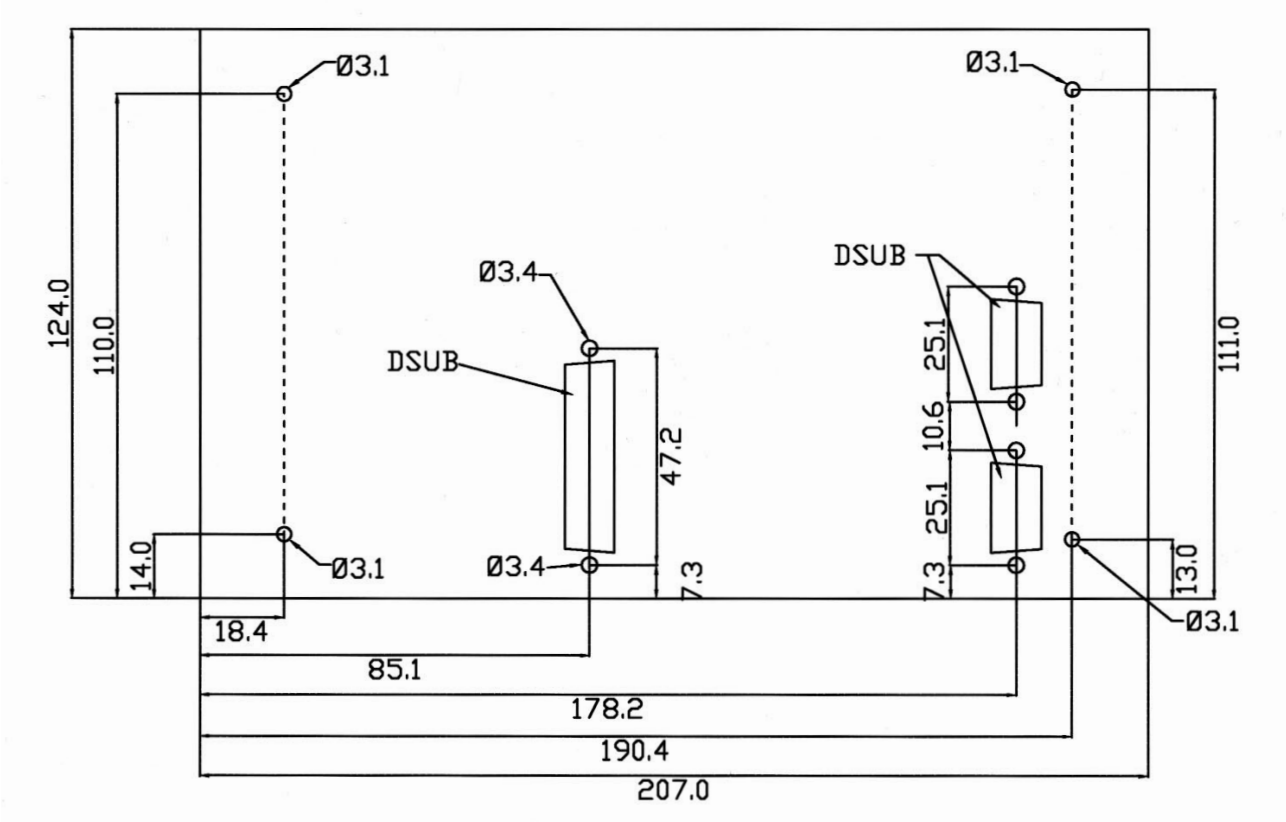
Rear view. Chassis for the MSD600/200



Side view



Side view. Rack mounting chassis for the PT0600/200



Rear view. Chassis for the PT0600/200

13. Pin Configuration

13.1 Appendix C-1. Pin configuration for VGA and Utility DSUB Connector

The pin configuration of the VGA and the Utility connector is common for all supported models.

Power , RS232 & I2C		
9-Pole DSUB		
+Vcc	12-15V	Pin 4
Power ground		Pin 5
I2C	IRQ	Pin 8
	SDA	Pin 7
	SCL	Pin 6
RS232	TX	Pin 2
	RX	Pin 3
GND		Pin 1

VGA		
15-Pole DSUB		
GND		Pin 5,6,7,8,10
H-sync		Pin 13
V-sync		Pin 14
Red		Pin 1
Green		Pin 2
Blue		Pin 3

13.2 Appendix C-2. Pin configuration for Analogue and Digital AES-3 Input/Output DSUB connector

Analogue & AES-3 Input/Output MSD200C and PT0200C		
25-Pole DSUB		
Input		
ANA 1	Hot	Pin 14
	Cold	Pin 1
	GND	Pin 2
ANA 2	Hot	Pin 15
	Cold	Pin 3
	GND	Pin 16
AES-3 #1	Hot	Pin 9
	Cold	Pin 21
	GND	Pin 22
Output		
ANA 1	Hot	Pin 17
	Cold	Pin 4
	GND	Pin 5
ANA 2	Hot	Pin 18
	Cold	Pin 6
	GND	Pin 19
AES-3 #1	Hot	Pin 24
	Cold	Pin 11
	GND	Pin 12

Analogue & AES-3 Input/Output MSD600C-III and PT0600C-III		
25-Pole DSUB		
Input		
ANA 1	Hot	Pin 14
	Cold	Pin 1
	GND	Pin 2
ANA 2	Hot	Pin 15
	Cold	Pin 3
	GND	Pin 16
AES-3 #1	Hot	Pin 9
	Cold	Pin 21
	GND	Pin 22
AES-3 #2	Hot	Pin 10
	Cold	Pin 23
	GND	Pin 22
Output		
ANA 1	Hot	Pin 17
	Cold	Pin 4
	GND	Pin 5
ANA 2	Hot	Pin 18
	Cold	Pin 6
	GND	Pin 19

Analogue & AES-3 Input/Output MSD600C-III and PT0600C-III		
AES-3 #1	Hot	Pin 24
	Cold	Pin 11
	GND	Pin 12
AES-3 #2	Hot	Pin 25
	Cold	Pin 13
	GND	Pin 12

AES-3 Input MSD600C-5.1 and PT0600C-5.1		
25-Pole DSUB		
Input		
AES-3 #1	Hot	Pin 9
	Cold	Pin 21
	GND	Pin 22
AES-3 #2	Hot	Pin 10
	Cold	Pin 23
	GND	Pin 22
AES-3 #3	Hot	Pin 20
	Cold	Pin 7
	GND	Pin 8

14. Factory Presets for MSD/PT0200C

14.1 Appendix D-1. Factory Preset 0: BASE SETUP

Only valid for: MSD200C, PT0200C

STATUS DISPLAY REFERENCE CHART						
Preset No. 0 - Base Setup						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 3			
	56	C + 1	CH 2			
	57	C + 2	CH 6			
	58	C + 3	CH 5			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	AnaL	33	AnaL	Analog 1 L
	66	CH 2	AnaR	34	AnaR	Analog 1 R
	67	CH 3	AesL	35	AesL	Digital 1 L
	68	CH 4	AesR	36	AesR	Digital 1 R
	69	CH 5	OFF			
	70	CH 6	OFF			
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 0 Base Setup is the default preset from which the MSD200C, PT0200C always will start from after power-up. Preset = can be user configured only by a special procedure.

The factory set up shown above monitors both the analogue and digital input. The phase meter and vector oscilloscope is assigned to bargraph channels 1, 2 (line #57 and #58).

Column A + B = Status Display Line Number + Destination ID

Column C = Status Display Source ID

Column D + E = Source Line Number + Source ID

Column F = Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

14.2 Appendix D-2. Factory Preset 1: ANALOGUE

Only valid for: MSD200C, PT0200C

STATUS DISPLAY REFERENCE CHART						
Preset No. 1 - ANALOGUE						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 3			
	56	C + 1	CH 2			
	57	C + 2	CH 6			
	58	C + 3	CH 5			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	AnaL	33	AnaL	Analog 1 L
	66	CH 2	AnaR	34	AnaR	Analog 1 R
	67	CH 3	OFF			
	68	CH 4	OFF			
	69	CH 5	OFF			
	70	CH 6	OFF			
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 1 Analogue is based on the stereo analogue input. In this set up phase meter and vector oscilloscope are assigned to bargraph channels 1, 2 (line #57 and #58), which are the physical analogue stereo input signal (line #33 and #34).

Column A + B = Status Display Line Number + Destination ID

Column C = Status Display Source ID

Column D + E = Source Line Number + Source ID

Column F = Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

14.3 Appendix D-3. Factory Preset 2: DIGITAL

Only valid for: MSD200C, PT0200C

STATUS DISPLAY REFERENCE CHART						
Preset No. 2 - DIGITAL						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 3			
	56	C + 1	CH 2			
	57	C + 2	CH 6			
	58	C + 3	CH 5			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	Aes1	35	Aes1	Digital 1 L
	66	CH 2	Aes1	36	Aes1	Digital 1 R
	67	CH 3	OFF			
	68	CH 4	OFF			
	69	CH 5	OFF			
	70	CH 6	OFF			
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 2 Digital is based on the digital AES-3 input. In this set up phase meter and vector oscilloscope are assigned to bargraph channels 1, 2 (line #57 and #58), which are the physical AES-3 inputs (line #35 and #36).

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

14.4 Appendix D-4. Factory Preset 3: ANALOGUE+MS

Only valid for: MSD200C, PT0200C

STATUS DISPLAY REFERENCE CHART						
Preset No. 3 - ANALOGUE + MS						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 3			
	56	C + 1	CH 2			
	57	C + 2	CH 6			
	58	C + 3	CH 5			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	AnaL	33	AnaL	Analog 1 L
	66	CH 2	AnaR	34	AnaR	Analog 1 R
	67	CH 3	SUM	55	SUM	
	68	CH 4	DIF	56	DIF	
	69	CH 5	OFF			
	70	CH 6	OFF			
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 3 Analogue+MS is based on the stereo analogue input. In this set up phase meter and vector oscilloscope are assigned to bargraph channels 1, 2 (line #57 and #58), which are the physical analogue stereo input signal (line #33 and #34). The bargraph channel 3,4 is used to monitor the SUM and DIF signal of the MS measurement.

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

14.5 Appendix D-5. Factory Preset 4: DIGITAL+MS

Only valid for: MSD200C, PT0200C

STATUS DISPLAY REFERENCE CHART						
Preset No. 4 - DIGITAL + MS						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 3			
	56	C + 1	CH 2			
	57	C + 2	CH 6			
	58	C + 3	CH 5			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	AesL	35	AesL	Digital 1 L
	66	CH 2	AesR	36	AesR	Digital 1 R
	67	CH 3	SUM	55	SUM	SUM
	68	CH 4	DIF	56	DIF	DIF
	69	CH 5	OFF			
	70	CH 6	OFF			
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 4 Digital+MS is based on the AES-3 input. In this set up phase meter and vector oscilloscope are assigned to bargraph channels 1, 2 (line #57 and #58), which are the physical AES-3 input signal (line #33 and #34). The bargraph channel 3,4 is used to monitor the SUM and DIF signal of the MS measurement.

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

15. Factory Presets for MSD/PT0600C-III

15.1 Appendix E-1. Factory Preset 0: BASE SETUP

Only valid for: MSD600C-III, PT0600C-III

STATUS DISPLAY REFERENCE CHART						
Preset No. 0 - Base Setup						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 3			
	56	C + 1	CH 2			
	57	C + 2	CH 6			
	58	C + 3	CH 5			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	AnaL	33	AnaL	Analog 1 L
	66	CH 2	AnaR	34	AnaR	Analog 1 R
	67	CH 3	Aes1	35	Aes1	Digital 1 L
	68	CH 4	Aes1	36	Aes1	Digital 1 R
	69	CH 5	Aes2	37	Aes2	Digital 2 L
	70	CH 6	Aes2	38	Aes2	Digital 2 R
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 0 Base Setup is the default preset from which the MSD600C-III, PT0600C-III always will start from after power-up. Preset = can be user configured only by a special procedure.

The factory set up shown above monitors both the analogue and digital input. The phasemeter and vector oscilloscope is assigned to bargraph channels 1 and 2 (line #57 and #58).

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

15.2 Appendix E-2. Factory Preset 1: ANALOGUE

Only valid for: MSD600C-III, PT0600C-III

STATUS DISPLAY REFERENCE CHART						
Preset No. 1 - ANALOGUE						
	A	B	C	D	E	
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 3			
	56	C + 1	CH 2			
	57	C + 2	CH 6			
	58	C + 3	CH 5			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	AnaL	33	AnaL	Analog 1 L
	66	CH 2	AnaR	34	AnaR	Analog 1 R
	67	CH 3	OFF			
	68	CH 4	OFF			
	69	CH 5	OFF			
	70	CH 6	OFF			
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 1 Analogue is based on the stereo analogue input. In this set up phase meter and vector oscilloscope are assigned to bargraph channels 1, 2 (line #57 and #58), which are the physical analogue stereo input signal (line #33 and #34).

Column A + B = Status Display Line Number + Destination ID

Column C = Status Display Source ID

Column D + E = Source Line Number + Source ID

Column F = Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

15.3 Appendix E-3. Factory Preset 2: DIGITAL

Only valid for: MSD600C-III, PT0600C-III

STATUS DISPLAY REFERENCE CHART						
Preset No. 2 - DIGITAL						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 3			
	56	C + 1	CH 2			
	57	C + 2	CH 6			
	58	C + 3	CH 5			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	AesL	35	AesL	Digital 1 L
	66	CH 2	AesR	36	AesR	Digital 1 R
	67	CH 3	OFF			
	68	CH 4	OFF			
	69	CH 5	OFF			
	70	CH 6	OFF			
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 2 Digital is based on both the AES-3 inputs. In this set up phase meter and vector oscilloscope are assigned to bargraph channels 1, 2 (line #57 and #58), which are the physical AES-3 input pair #1 (line #35 and #36).

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

15.4 Appendix E-4. Factory Preset 3: ANALOGUE+MS

Only valid for: MSD600C-III, PT0600C-III

STATUS DISPLAY REFERENCE CHART						
Preset No. 3 - ANALOGUE +MS						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 3			
	56	C + 1	CH 2			
	57	C + 2	CH 6			
	58	C + 3	CH 5			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	AnaL	33	AnaL	Analog 1 L
	66	CH 2	AnaR	34	AnaR	Analog 1 R
	67	CH 3	SUM	55	SUM	
	68	CH 4	DIF	56	DIF	
	69	CH 5	OFF			
	70	CH 6	OFF			
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 3 Analogue+MS is based on the stereo analogue input. In this set up phase meter and vector oscilloscope are assigned to bargraph channels 1, 2 (line #57 and #58), which are the physical analogue stereo input signal (line #33 and #34). The bargraph channel 3, 4 is used to monitor the SUM and DIF signal of the MS measurement.

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

15.5 Appendix E-5. Factory Preset 4: DIGITAL+MS

Only valid for: MSD600C-III, PT0600C-III

STATUS DISPLAY REFERENCE CHART						
Preset No. 4 - DIGITAL +MS						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 3			
	56	C + 1	CH 2			
	57	C + 2	CH 6			
	58	C + 3	CH 5			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	AesL	35	Aes1	Digital 1 L
	66	CH 2	AesR	36	Aes1	Digital 1 R
	67	CH 3	SUM	55	SUM	
	68	CH 4	DIF	56	DIF	
	69	CH 5	OFF			
	70	CH 6	OFF			
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 4 Digital+MS is based on the first AES-3 input pair #1. In this set up phase meter and vector oscilloscope are assigned to bargraph channels 1, 2 (line #57 and #58), which are the physical AES-3 input signal (line #33 and #34). The bargraph channel 3,4 is used to monitor the SUM and DIF signal of the MS measurement. .

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

16. Factory Presets for MSD/PT0600C-5.1

16.1 Appendix F-1. Factory Preset 0: BASE SETUP

Only valid for: MSD600C-5.1, PT0600C-5.1

STATUS DISPLAY REFERENCE CHART						
Preset No. 0 - Base Setup						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 3			
	56	C + 1	CH 2			
	57	C + 2	CH 6			
	58	C + 3	CH 5			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	L	35	L	Digital 1 L
	66	CH 2	R	36	R	Digital 1 R
	67	CH 3	C	37	C	Digital 2 L
	68	CH 4	LFE	38	LFE	Digital 2 R
	69	CH 5	Ls	39	Ls	Digital 3 L
	70	CH 6	Rs	40	Rs	Digital 3 R
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 0 Base Setup is the default preset from which the MSD600C-5.1, PT0600C-5.1 always will start from after power-up. From factory this preset will be equal preset 2. Preset = can be user configured only by a special procedure.

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

16.2 Appendix F-2. Factory Preset 1: LCR

Only valid for: MSD600C-5.1, PT0600C-5.1

STATUS DISPLAY REFERENCE CHART						
Preset No. 1 - 5.1 LCR						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 2			
	56	C + 1	CH 3			
	57	C + 2	CH 5			
	58	C + 3	CH 4			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	L	35	L	Digital 1 L
	66	CH 2	C	37	C	Digital 2 L
	67	CH 3	R	36	R	Digital 1 R
	68	CH 4	Ls	39	Ls	Digital 3 L
	69	CH 5	Rs	40	Rs	Digital 3 R
	70	CH 6	LFE	38	LFE	Digital 2 R
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 1 LCR 5.1 Surround Sound. In this preset the DK-Audio Jelly-Fish™ figure is used to monitor a 5.1 surround sound signal. The preset shows all the three AES-3 inputs (lines #33, #34, #37, #38, #41 and #42). This preset is the same as Preset 2 except channels C and R is switched. The Jelly-Fish™ figure is set up via lines #55–62 in column A+B. As can be seen from the illustrations, this particular set up uses five vectors in order to show the surround sound information.
The ”CENT” figure is coupled to the bargraph showing the centre information, and vector ”C+1” is coupled to the bargraph showing the information from the right channel.
The next vectors are arranged clock-wise to build the complete Jelly-Fish™ surround sound figure.

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

16.3 Appendix F-3. Factory Preset 2: LRC

Only valid for: MSD600C-5.1, PT0600C-5.1

STATUS DISPLAY REFERENCE CHART						
Preset No. 2 - 5.1 LRC						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	CH 3			
	56	C + 1	CH 2			
	57	C + 2	CH 6			
	58	C + 3	CH 5			
	59	C + 4	CH 1			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	L	35	L	Digital 1 L
	66	CH 2	R	36	R	Digital 1 R
	67	CH 3	C	37	C	Digital 2 L
	68	CH 4	LFE	38	LFE	Digital 2 R
	69	CH 5	Ls	39	Ls	Digital 3 L
	70	CH 6	Rs	40	Rs	Digital 3 R
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 2 LRC 5.1 Surround Sound. In this preset the DK-Audio Jelly-Fish™ figure is used to monitor a 5.1 surround sound signal. The preset shows all the three AES-3 inputs (lines #33, #34, #37, #38, #41 and #42). This preset is the same as Preset 1 except channels C and R is switched.
The Jelly-Fish™ figure is set up via lines #55–62 in column A+B. As can be seen from the illustrations, this particular set up uses five vectors in order to show the surround information.
The ”CENT” figure is coupled to the bargraph showing the centre information, and vector ”C+1” is coupled to the bargraph showing the information from the right channel.
The next vectors are arranged clock-wise to build the complete Jelly-Fish™ surround sound figure. If you want to monitor 5.1 surround sound from a digital signal source, you must change lines #65-70 in column A+B to the relevant digital inputs.

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

16.4 Appendix F-4. Factory Preset 3: DIGITAL 1+2

Only valid for: MSD600C-5.1, PT0600C-5.1

STATUS DISPLAY REFERENCE CHART						
Preset No. 3 - DIGITAL 1+2						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 1	57	CH 1	
	54	PHAS	CH 2	58	CH 2	
Surround Sound	55	CENT	OFF			
	56	C + 1	OFF			
	57	C + 2	OFF			
	58	C + 3	OFF			
	59	C + 4	OFF			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	Aes1	35	Aes1	Digital 1 L
	66	CH 2	Aes2	36	Aes2	Digital 1 R
	67	CH 3	Aes3	37	Aes3	Digital 2 L
	68	CH 4	Aes4	38	Aes4	Digital 2 R
	69	CH 5	Aes5	39	Aes5	Digital 3 L
	70	CH 6	Aes6	40	Aes6	Digital 3 R
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 3 Digital 1+2 is based on all the three AES-3 inputs. In this set up phase meter and vector oscilloscope are assigned to bargraph channels 1, 2 (line #57 and #58), which are the physical AES-3 input pair #1 (line #35 and #36).

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

16.5 Appendix F-5. Factory Preset 4: DIGITAL 3+4

Only valid for: MSD600C-5.1, PT0600C-5.1

STATUS DISPLAY REFERENCE CHART						
Preset No. 4 - DIGITAL 3+4						
	A	B	C	D	E	
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 3	59	CH 3	
	54	PHAS	CH 4	60	CH 4	
Surround Sound	55	CENT	OFF			
	56	C + 1	OFF			
	57	C + 2	OFF			
	58	C + 3	OFF			
	59	C + 4	OFF			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	Aes1	35	Aes1	Digital 1 L
	66	CH 2	Aes2	36	Aes2	Digital 1 R
	67	CH 3	Aes3	37	Aes3	Digital 2 L
	68	CH 4	Aes4	38	Aes4	Digital 2 R
	69	CH 5	Aes5	39	Aes5	Digital 3 L
	70	CH 6	Aes6	40	Aes6	Digital 3 R
	71	CH 7	OFF			
	72	CH 8	OFF			

Preset 4 Digital 3+4 is based on all the three AES-3 inputs. In this set up phase meter and vector oscilloscope are assigned to bargraph channels 3, 4 (line #59 and #60), which are the physical AES-3 input pair #2 (line #37 and #38).

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

16.6 Appendix F-5. Factory Preset 5: DIGITAL 5+6

Only valid for: MSD600C-5.1, PT0600C-5.1

STATUS DISPLAY REFERENCE CHART						
Preset No. 5 - DIGITAL 5+6						
	A	B	C	D	E	F
	Line #	Output	Input	Line #	Input	Ref.
PH	53	PHAS	CH 5	61	CH 5	
	54	PHAS	CH 6	62	CH 6	
Surround Sound	55	CENT	OFF			
	56	C + 1	OFF			
	57	C + 2	OFF			
	58	C + 3	OFF			
	59	C + 4	OFF			
	60	C + 5	OFF			
	61	C + 6	OFF			
	62	C + 7	OFF			
Res.	63	RES	OFF			
	64	RES	OFF			
Bargraphs	65	CH 1	Aes1	35	Aes1	Digital 1 L
	66	CH 2	Aes2	36	Aes2	Digital 1 R
	67	CH 3	Aes3	37	Aes3	Digital 2 L
	68	CH 4	Aes4	38	Aes4	Digital 2 R
	69	CH 5	Aes5	39	Aes5	Digital 3 L
	70	CH 6	Aes6	40	Aes6	Digital 3 R
	71	CH 7	OFF			
	72	CH 8	OFF			

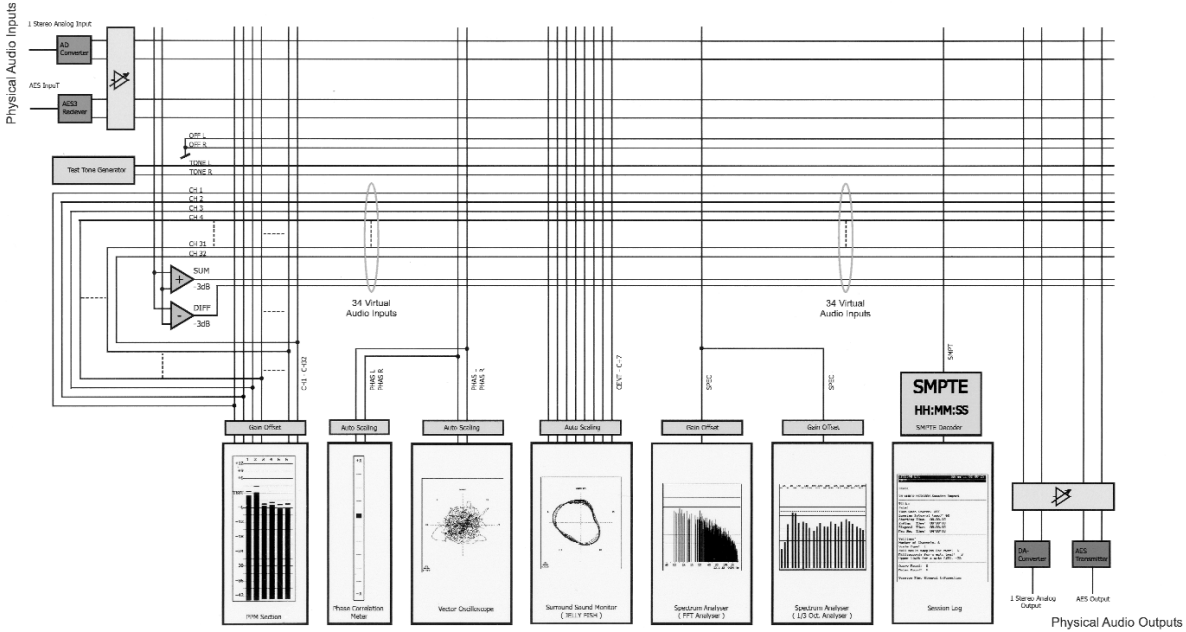
Preset 5 Digital 5+6 is based on all the three AES-3 inputs. In this set up phase meter and vector oscilloscope are assigned to bargraph channels 5, 6 (line #61 and #62), which are the physical AES-3 input pair #3 (line #39 and #40).

Column A + B =	Status Display Line Number + Destination ID
Column C =	Status Display Source ID
Column D + E =	Source Line Number + Source ID
Column F =	Shows the physical input connection corresponding to the line number in column D. This combination will always be the same.

17. Audio Matrix Flow Charts

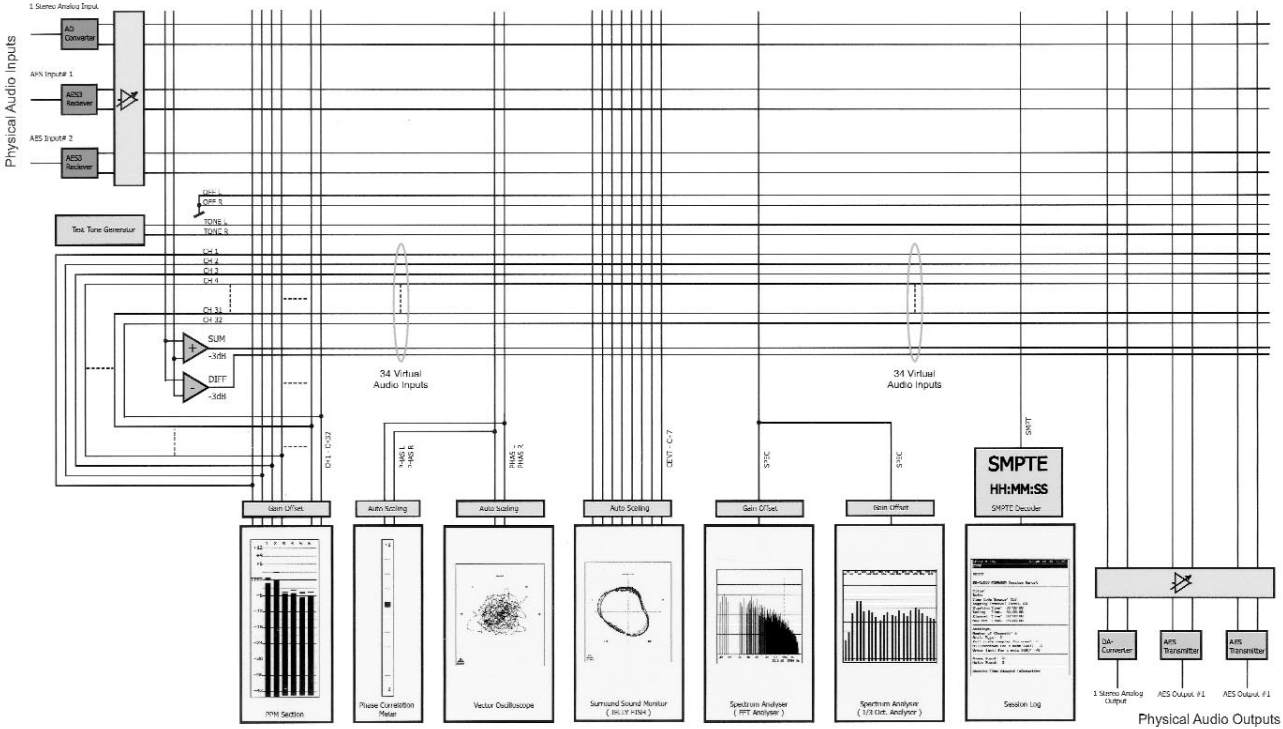
17.1 Appendix G-1. Audio Matrix Flow chart

Only valid for: MSD200C, PT0200C



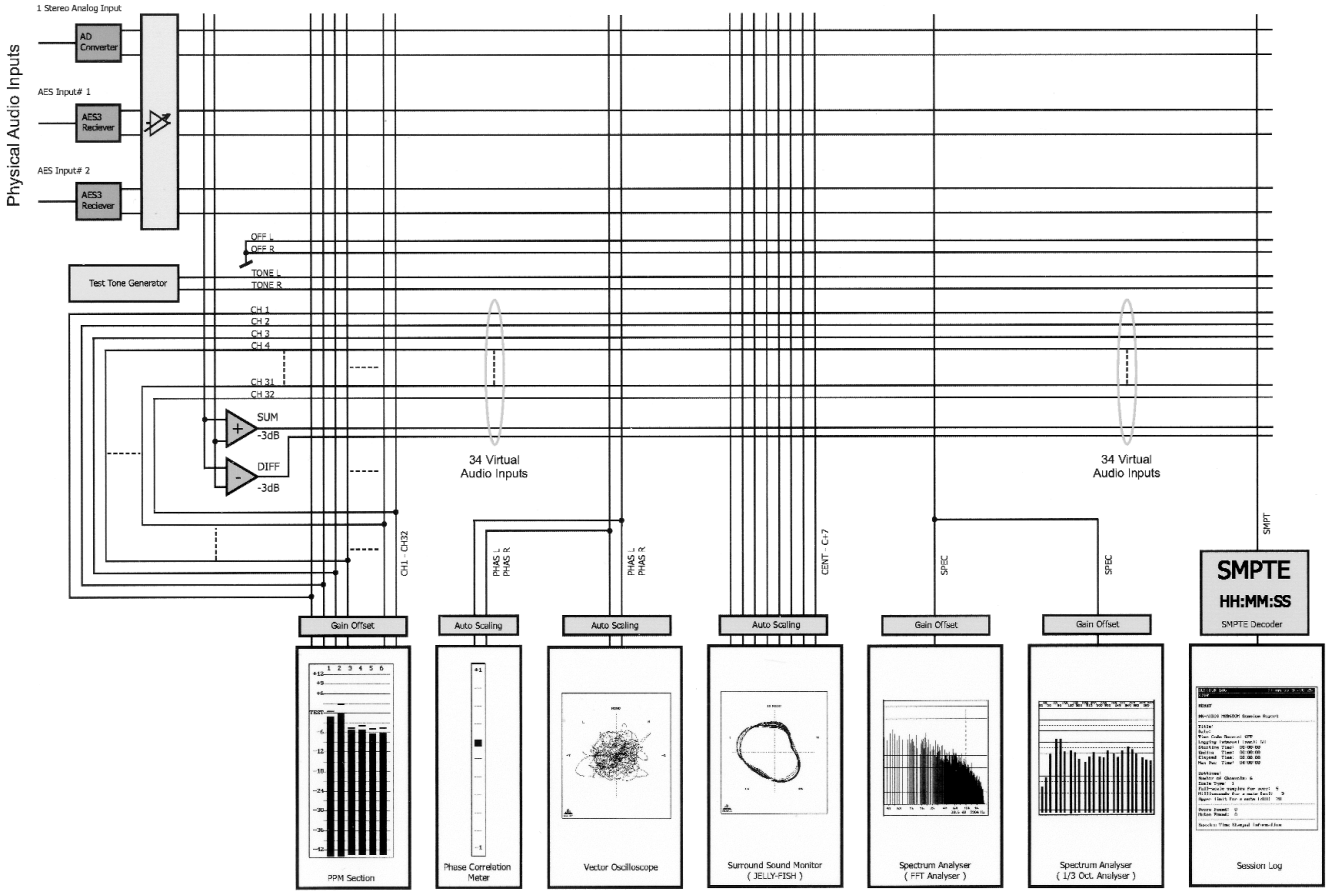
17.2 Appendix G-2. Audio Matrix Flow chart

Only valid for: MSD600C-III, PT0600C-III



17.3 Appendix G-3. Audio Matrix Flow chart

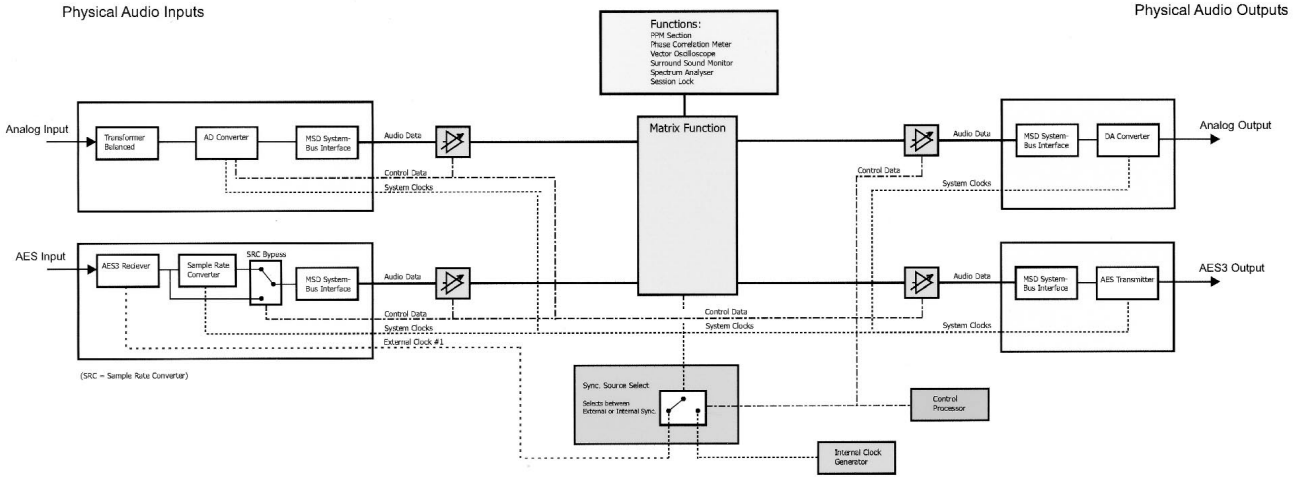
Only valid for: MSD600C-5.1, PT0600C-5.1


Physical Audio Inputs
1 Stereo Analog Input
AD Converter
AES Input# 1
AES3 Reciever
AES Input# 2
AES3 Reciever
OFF L
OFF R
TONE L
TONE R
Test Tone Generator
CH 1
CH 2
CH 3
CH 4
CH 31
CH 32
SUM
-3dB
DIFF
-3dB
34 Virtual Audio Inputs
34 Virtual Audio Inputs
CH1 - CH32
PHAS L
PHAS R
PHAS L
PHAS R
CENT - C-7
SPEC
SPEC
SMPT
SMPTE
HH:MM:SS
SMPTE Decoder
Gain Offset
Auto Scaling
Auto Scaling
Auto Scaling
Gain Offset
Gain Offset
PPM Section
Phase Correlation Meter
Vector Oscilloscope
Surround Sound Monitor (JELLY-FISH)
Spectrum Analyser (FFT Analyser)
Spectrum Analyser (1/3 Oct. Analyser)
Session Log

18. Sync Clock Flow Charts

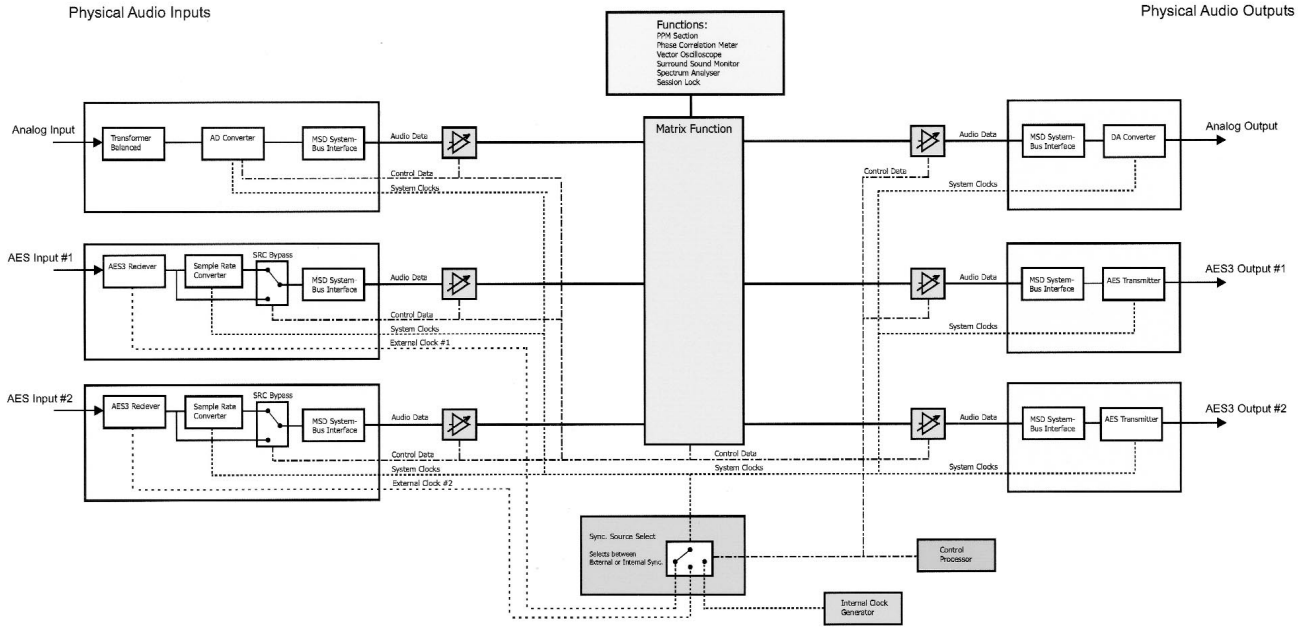
18.1 Appendix H-1 Sync Clock Flow chart

Only valid for: MSD200C, PT0200C



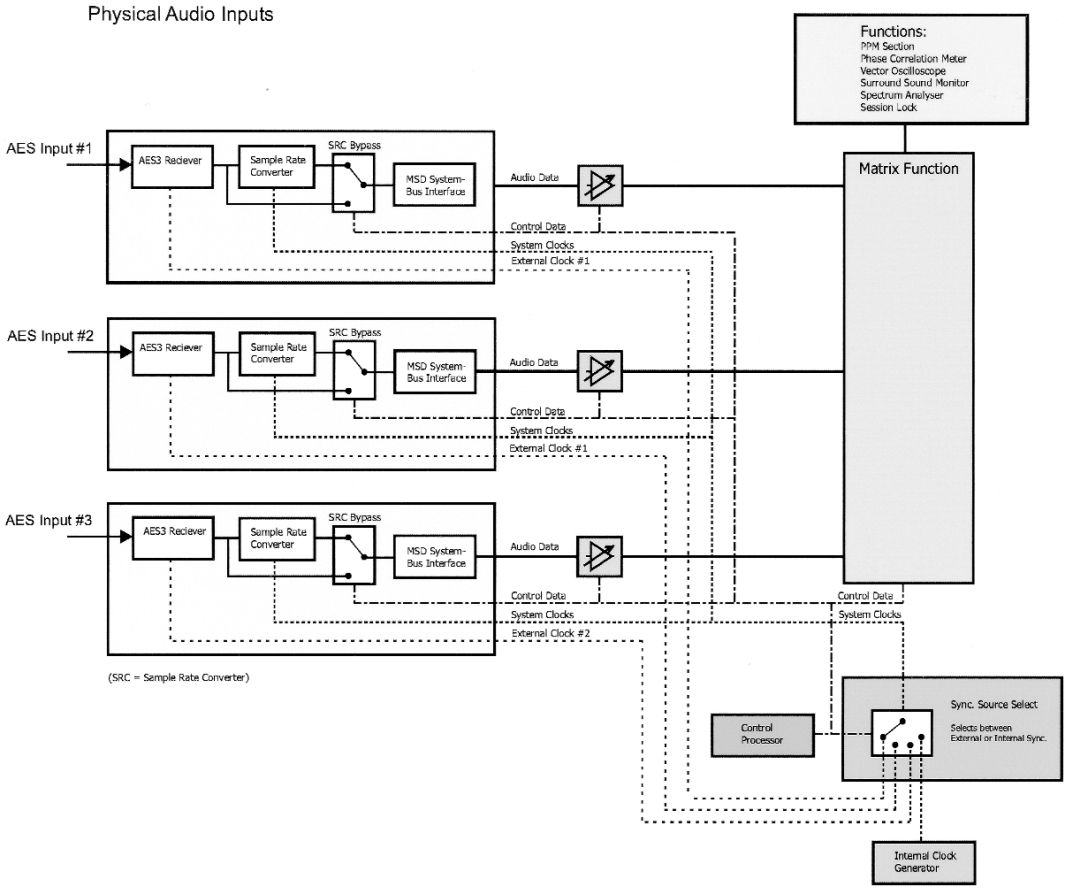
18.2 Appendix H-2. Sync Clock Flow chart

Only valid for: MSD600C-III, PT0600C-III



18.3 Appendix H-3. Sync Clock Flow chart

Only valid for: MSD600C-5.1, PT0600C-5.1


Physical Audio Inputs
Functions:
PPM Section
Phase Correlation Meter
Vector Oscilloscope
Surround Sound Monitor
Spectrum Analyser
Session Lock
Matrix Function
AES Input #1
AES3 Reciever
Sample Rate Converter
SRC Bypass
MSD System-Bus Interface
Audio Data
Control Data
System Clocks
External Clock #1
AES Input #2
AES3 Reciever
Sample Rate Converter
SRC Bypass
MSD System-Bus Interface
Audio Data
Control Data
System Clocks
External Clock #1
AES Input #3
AES3 Reciever
Sample Rate Converter
SRC Bypass
MSD System-Bus Interface
Audio Data
Control Data
System Clocks
External Clock #2
(SRC = Sample Rate Converter)
Control Data
System Clocks
Sync. Source Select
Selects between External or Internal Sync.
Control Processor
Internal Clock Generator

Registration Card

Please fill in the registration card that was enclosed with your MSD product and mail or fax it to DK-Audio to obtain the latest information about new products. If your Registration Card is missing, you may use this page instead.

Name:

Company:

Address:

Postcode/City:

Country:

Phone:

Fax:

E-mail:

Model No:

Unit Serial No:

Purchase Date:

Purchased from (dealer):

Which features would you like to see in new versions of this model?

Comments:

MAIL OR FAX TO:

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Marielundvej 37D, DK-2370 Herlev, Denmark

E-mail: info@dk-audio.com
Fax: + 45 44 85 02 50