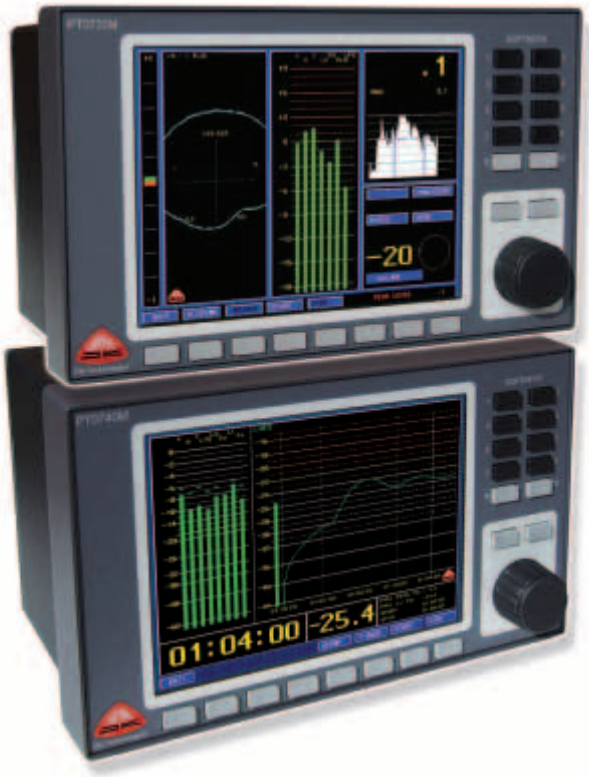
Surround Sound & Multichannel Meters

PRODUCT CODE: PT0740M and PT0730M

DK - Technologies



The PT0730M and PT0740M meters have been designed to meet the need for powerful audio measurement tools that can be configured for production, engineering and quality control purposes.

The ability to have a separate remote client panel unit using the dedicated DK-Technologies PT0700R or use of the Ethernet port offering both control and a second display gives added versatility and value.

The PT0730M and PT0740M JellyFish™ and StarFish™ displays provide clear colour indications of potential problems with phase issues between all points.

Comprehensive Loudness measurements and logging via the Ethernet port are available. All current loudness measurement recommendations including **ITU** and **EBU R128** are included in the software.

The internal matrix allows the meter to be the heart of a monitor routing system, managing outputs to speakers and other devices.

The meter can optionally be equipped with Dolby E decoding to allow extraction to the audio meters of all elements of a Dolby encoded signal.

- **Dolby E/D (AC3) Decoder**
- **Comprehensive Loudness Measurement**
- **Audio delay module**
- **PT0700R Remote Control and secondary display (see separate datasheet)**
- **StarFish™ & JellyFish™ for 5.1/6.1/7.1 Surround Sound**
- **Table top stand**
- **19" x 3u rack mount frame**

The PT0730M and PT0740M meters have 7 expansion slots on the rear to accommodate additional facilities such as additional digital and analogue audio inputs, analogue and digital audio outputs, Dolby E/D (AC3) decoder and audio delay.

The full DK-Technologies audio metering is available providing the world renowned JellyFish™ & StarFish™ displays. These features which are so well established as a metering system in the MSD range of products are implemented in the PT0730M and PT0740M. These include BLITS Ident Tones for 5.1, ITU Loudness scales, LEQA & LEQM, Spectrum Analysis (1/3rd Octave and FFT).

The PT0740M/PT0730M will display simple audio bargraph metering with up to 16 bars on screen simultaneously. The channels displayed can be selected through the matrix built into the meter. The matrix is accessible via the PT0730M and PT0740M controls or externally on a PC for immediate access and control or programming can be achieved offline and downloaded to the meter when convenient.

Audio can be de-embedded from all 16 paths on the HD/SD autosensing SDI input of the PT0740M. The full audio metering option provides all the features known from DK's Audio Meters, such as Peak Programme Meter, Audio Matrix, Star-Fish™, Jelly-Fish™, goniometer (audio vectorscope), Phase Correlation Meter, 1/3rd Octave & FFT Spectrum Analysers.

Meter settings can be password protected to ensure they do not get changed to inappropriate settings.

The rotary Wheeler can be assigned to be a volume control for speakers and headphones.

Features...

- Flexible modular input system
- Ethernet remote control for PC
- Matrix handling up to 4 AES3 inputs, 16 analogue inputs, 10 inputs from Dolby decoding
- HD/SD Audio de-embedding from HD/SD SDI (PT0740M only)
- Up to 4 AES3 outputs, 16 analogue output
- Audio delay module
- Audio phase meter
- Audio goniometer
- StarFish™ & JellyFish™
- 5.1/6.1/7.1 Metering
- ITU Loudness measurements with LU, LUFS and LKFS scales
- Dolby E/D (AC3) Decoder
- Surround Sound Down-mix capability
- Powerful preset system for fast easy setups
- Multi-user Control Panel (Optional)
- DVI/VGA Output
- Multiple images (Phase/StarFish™/Amplitude Bargraph / Loudness) on internal and/or external screens.
- 19" Rack mount (3U high half-rack unit), short depth for compact installations
- 6.5" high contrast LCD display, Softkey buttons, rotary control, and preset select buttons

The Next Generation

Surround Sound & Multichannel Meters

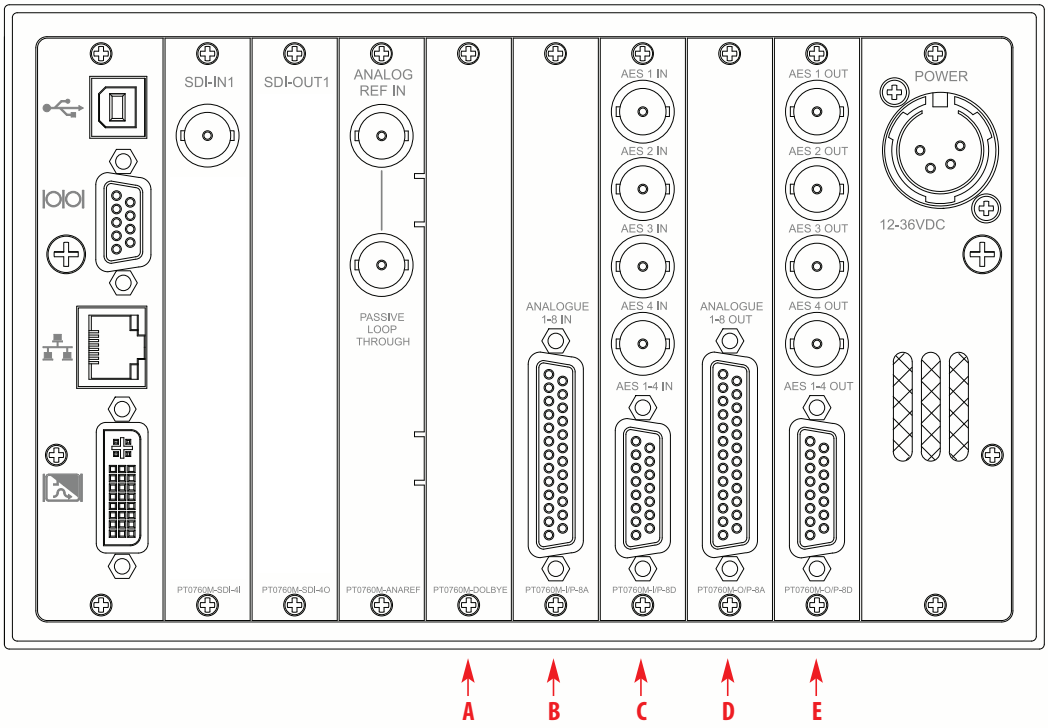
DOLBY E/D (AC3) DECODING

Dolby E encodes up to 8 channels of audio plus consumer and professional metadata information and carries it within a digital audio pair in an SDI stream or on a single AES3 audio channel. The PT0730M and PT0740M when fitted with the Dolby option de-embeds the Dolby E or D encoded signal, back to its constituent parts and then provides full audio metering of the signal. The matrix can route the decoded signal to other devices such as loudspeakers.

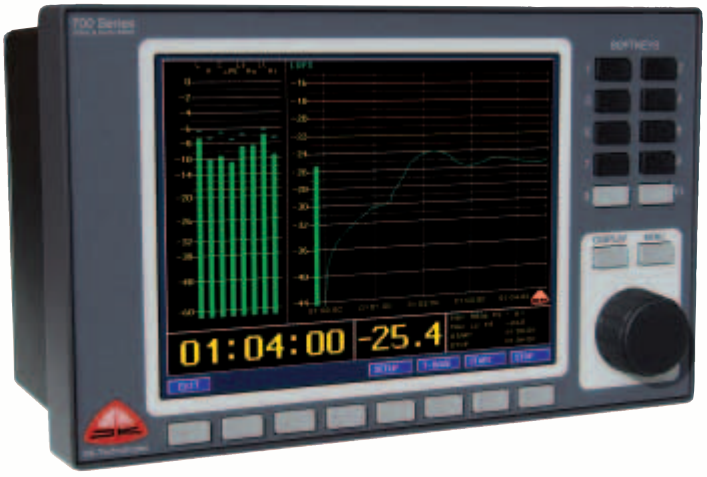
The Dolby option of the PT0760M also delivers a ninth and tenth signal, which is a stereo downmix of the de-embedded and decoded signals derived using the coefficients set in the Dolby metadata. This can provide a health check as well as quality checking. Dolby metadata can also be shown on-screen.

INPUT/OUTPUT & PROCESSING MODULES

Rear View



A) **PT0760M-DOLBYE** ..... Dolby E/D (AC3)
B) **PT0760M-I/P-8A** ..... 8 Channel Analogue Audio Input Module
C) **PT0760M-I/P-8D** ..... 4 x AES3 Digital Audio Input Module
D) **PT0760M-O/P-8A** ..... 8 Channel Analogue Audio Output Module
E) **PT0760M-O/P-8D** ..... 4 x AES3 Digital Audio Output Module



Solutions in Audio & Video

PRODUCT CODE: PT0740M & PT0730M

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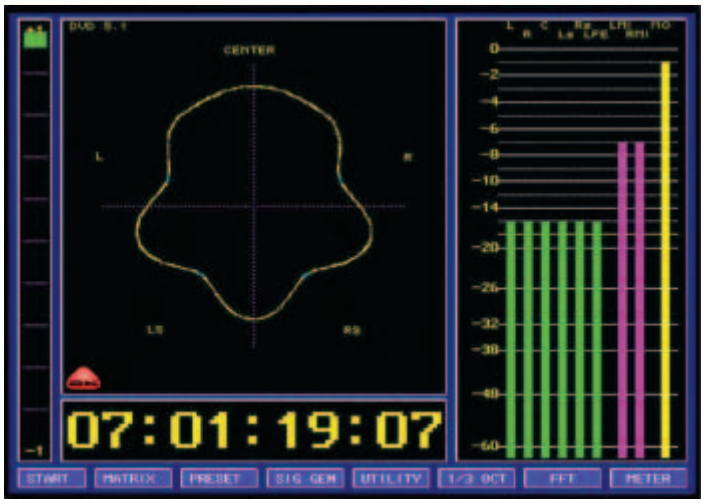
AUDIO METERING

The PT0740M & PT0730M can display simple audio bargraph metering at the same time as the StarFish™ and Loudness. The channels displayed can be selected through the DK Matrix built into the meter. The matrix is accessible via the controls or externally on a PC where programming can be achieved online or offline and downloaded to the meter when convenient.



StarFish™ with phase correlation display, timecode and full 5.1, stereo & mono peak metering.

Allocation of the bargraphs and the phase meter can be for up to 16 incoming audio channels, irrespective of source, video inputs 1, 2, 3 & 4 and external audio input modules fitted to the rear of the PT0740M & PT0730M. Audio can be de-embedded from the video channel. Full audio metering provides all the features known from DK's Audio Meters, such as Peak Programme Meter, Audio Matrix, Star-Fish™, Jelly-Fish™, Phase Correlation Meter, 1/3rd Octave & FFT Spectrum Analysers.

It is possible to have the different combinations of audio metering on the screen such as peak levels, Loudness units with peak and time based measurements. These facilities are selected via the matrix from both the embedded audio on the HD/SD video signals and also from the optional analogue or digital input modules fitted to the rear of the meter. Channels monitored are selected by the user and are independent of each other.

The meters can also be fitted with the optional digital and analogue output modules to provide level controlled balanced signals to external powered monitors. This feature allows these meters to become the centre point of any Quality Control area without the need for additional external equipment. With the use of presets which are locked by the manager, the device can be operated with simple single button presses.

Dolby can be decoded from the embedded audio or from external AES3 input signals via the optional digital audio input module. The source for the Dolby E decoder is controlled via the matrix within the meter. Decoding will be to Dolby E/D (AC3) standards.

ORDERING INFORMATION

PT0730M

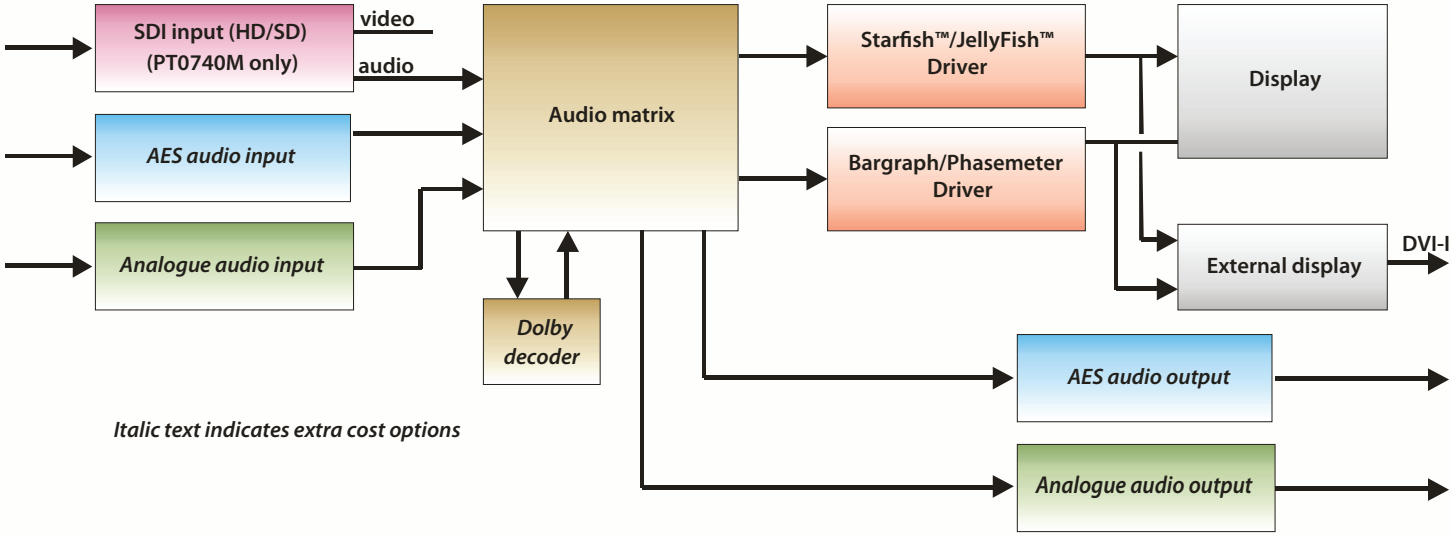
Master Surround Sound Meter inc power supply, base unit with utility module for DC supply, USB, Ethernet & DVI/VGA output via the DVI connector. Full audio metering including ITU Loudness, StarFish™, Dolby Metadata (with Dolby option), multiple scale bargraph meters.

PT0740M

Master Surround Sound Meter inc HD/SD SDI input with 16 channel audio de-embedder, power supply, base unit with utility module for DC supply, USB, Ethernet & DVI/VGA output via the DVI connector. Full audio metering including ITU Loudness, StarFish™, Dolby Metadata (with Dolby option), multiple scale bargraph meters.

VIDEO FORMATS

HD 1080p	HD 720p
1080p/30	720p/60
1080p/29.97	720p/59.94
1080p/25	720p/50
1080p/24	720p/30
1080p/23.98	720p/29.97
	720p/25
	720p/24
	720p/23.98
HD 1080i	**SD**
1080i/30	576i/25 (625)
1080i/29.97	487i/29.97 (525)
1080i/25	



Italic text indicates extra cost options

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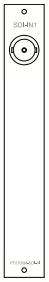
PT0740M & PT0730M - HARDWARE OPTIONS

HD/SD VIDEO



PT0760M-SDI-1I
SDI input specifications:

SMPTE-Formats:	259M, 292M
Connector:	BNC, 75Ω (Internally Terminated)
Return Loss:	>15dB (5MHz - 1.5GHz)
Input Level:	800mVp-p, ±10% (0m Cable)
Equalization Range: (Belden 8281 cable type):	259M: 0-280m 292M: 0-100m

PT0760M-ANAREF
External Analogue Video reference:

Connector:	BNC, 75Ω (Not internally terminated)
Return Loss:	>35dB (5MHz to 30MHz)
Input Level:	1Vp-p typical, 2Vp-p (Maximum)

Supports video standards:

SDTV:	SMPTE 125M SMPTE 267M ITU-R BT .601 (480I, 576I)
HDTV:	SMPTE 296M(720P) SMPTE 274M(1080I/P) SMPTE RP 211 (1080PsF)

ANALOGUE & DIGITAL AUDIO

PT0760M-O/P-8A
8 Channel Analogue Audio Output Module:

Connector:	25 pin Female D-Sub.
Sample Rate with internal Sync:	48kHz
Max. Output Level at 600Ω:	+18dB (VCC=12V) +24dB (VCC >20V)
Bit Resolution:	24 bits.
Frequency Range:	30Hz to 20kHz ±0.3dB
Sample rate range with external sync:	32 kHz to 50 kHz
Group delay:	<0.21 msec
Dynamic range A-weighted:	>101 dB
Crosstalk at 1 kHz:	< –96 dB
Signal-to-noise ratio:	93 dB (typical)
Nominal output impedance:	< 5 ohm

PT0760M-O/P-8D
4 Channel Digital Output Module (AES3):

Connectors:	15 pin Female D-Sub (AES3-2003) & 4 x BNC (AES3-id2001)
Sample rate with internal Sync:	48kHz
Output Level (BNC), 75Ω:	1V
Output Level (D-Sub), 110Ω:	5V (balanced)
Bit Resolution:	24 bits.

PT0760M-I/P-8A
8 Channel Analogue Audio Input Module (balanced):

Connector:	25 pin Female D-Sub.
Sample Rate with internal Sync:	48kHz
Max. input Level:	+24dB
Bit Resolution:	24 bits
Frequency Range:	30Hz to 20kHz ±0.3dB
Nominal input impedance:	> 20kΩ
Group delay:	<0.82 msec
Dynamic range, A-weighted:	>103 dB
Crosstalk at 1 kHz:	< –96 dB
Signal-to-noise ratio:	93 dB (typical)

PT0760M-I/P-8D
4 Channel Digital Input Module (AES3):

Connectors:	15 pin Female D-Sub (AES3-2003) & 4 BNC (AES3-id-2001)
Sample rate internal:	48kHz
Sample rate for input module:	8kHz - 108kHz
Input Level:	>500mV
Bit Resolution:	24 bits
Input impedance:	110Ω
Group delay:	1.75 msec (Max.)
THD & Noise:	–103 dB @ 1 kHz (typical)
Dynamic range:	>120 dB

GENERAL SPECIFICATIONS

General Connectivity:

External Display:	DVI-I (DVI or VGA) 640x480p60 1280x720p60 24 bit color Monitor, Control & Update RS232 / USB (-A) / (RJ45)

Power Supply:

Power input Connector:	XLR4-male
Input Voltage:	12-36VDC
Power Usage:	15-40W

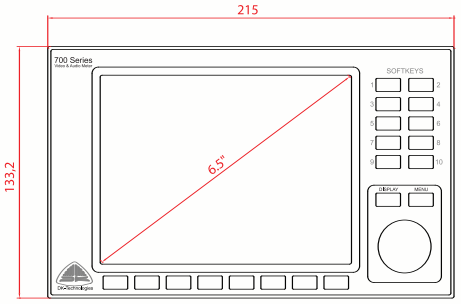
Physical Characteristics:

Height:	133.4 mm
Width:	215.2 mm
Depth:	145 mm Max.
Weight:	2,5kg (typical)

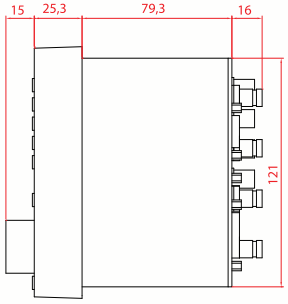
Environmental Conditions:

Storage temperature:	-20° to +70°C
Operating temperature:	+5° to +45°C
Humidity:	Non-condensing (IEC 721)

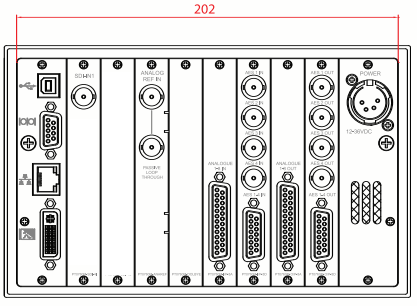
Front View



Side View



Rear View



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