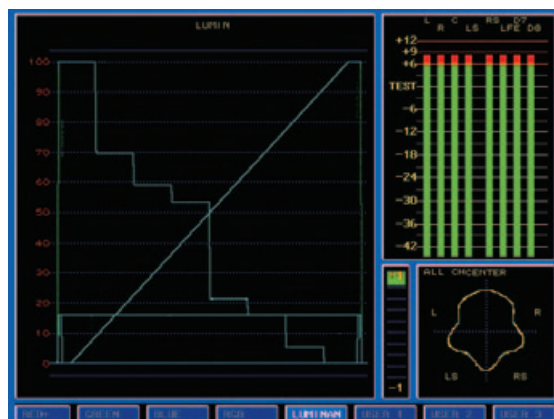# DK-Technologies Product Showcase

PRODUCT CODE: PT0700 SERIES

Multichannel HD/SD Waveform Monitors

The PT0700 Series has been designed to meet the increasingly complex demands being placed on the broadcasters of today. In order to improve efficiency and to reduce costs we have combined precision audio and video metering in one chassis and full remote access via Ethernet or our own client panel, PT0700R which permits full access with independent control and display. Comprehensive Loudness measurements to ITU, EBU R128 & ATSC A/85 and logging via the Ethernet port are included in designated versions

The PT0700 Series is capable of handling two HD/SD SDI inputs and up to 16 audio channels on the internal Screen. The embedded audio from each of the 2 input channels can be de-embedded (maximum 16 channels).

Using the inbuilt DK-Technologies audio matrix, a stereo downmix can be easily achieved removing the requirement for external matrixes or mixer. The meter can been equipped with Dolby E decoding. The audio elements include 5.1 Surround (StarFish™), ITU/EBU/ATSC Loudness measurements & FFT Spectrum Analysis.

FEATURES...

- Up to 2 independent Auto Sensing HD/SD Inputs
- 1 Assignable HD/SD SDI Output
- Zoom with cursors
- Vectorscope
- Colour Gamut Alarms
- **STA - Smart Timing Analysis**
- **SVLC - Smart Video Landscape Compressor** for detail highlighting
- Independent External Reference Input
- Full HD/SD Audio De-embedding (16 Channels)
- Dolby E/D (AC3) Decoder
- **StarFish™** & **JellyFish™**
- 5.1/6.1/7.1 Metering
- EBU, ITU & ATSC Loudness scales & logging
- Simultaneous Audio & Video display
- Independent Video & Audio controls
- Full remote control & display on PC or via optional PT0700R Client Panel
- Assignable DVI/VGA Output via DVI connector

OPTIONS...

- PT0710 - Entry-level Single Channel HD/SD Waveform Monitor
- PT0760M - Versions available with just video or combined video & audio
- PT0740M & PT0740M - Audio only versions with multiple input & output optins
- PT0700R - Independent Remote Control for PT0760M

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

The PT0700 series gives the user:

- Combined screen with video and audio
- Full remote access
- Password protected access
- Logging of audio & video against time of day or timecode
- DVI output for external screen
- Entry level video meter with 16 channel de-embedding and display
- Ultra fast start up time and format change detection
- In-built volume control.

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HD-SD VariTime™ Sync Generator

FEATURES...

- Multi-format sync capability: 19 HD formats in addition to PAL, NTSC and standard definition SDI systems

- Full genlock capability: 1 frame for HD; 2 fields for SDI; 4 and 8 fields for NTSC and PAL

- GPS Genlock and LTC Generator Option

- SNTP Server & Ethernet Remote

- Up to 12 individually timed tri-level sync outputs

- Dual Link HD-SD Test Signal Generator

- Up to 8 individually timed HD and SD serial digital outputs and 2 SD serial digital outputs

- "Lip Sync" moving element in SDI test patterns synchronised to embedded audio "click"

- Programmable text strings in test pattern generators can be placed on the screen where needed

In today's environment, sync requirements are becoming increasingly diverse, as they need to support multiple production formats. A new flexibility is called for in synchronising systems. The PT5300 HD-SD VariTime™ Sync Generator is specially designed to fit into this new environment with all signals needed for synchronisation, fault finding and checking of the entire video chain. The generator conforms to the relevant ITU, SMPTE, EBU and AES standards.

The generator has up to 12 separately controllable tri-level outputs. For each output any of 19 HD formats can be independently selected. For several HD formats genlocking to the frame rates of SD 525-line and 625-line systems will automatically take place. In this way frame synchronisation is ensured between SD and HD. Each of the 4 tri-level outputs can be individually delayed or advanced with 6.7ns resolution in phase to each other and the mainframe system sync or genlock input.

A GPS module is available as an option for the PT5300 mainframe. The PT8616 GPS Genlock module assures precise video synchronisation through use of the ultra accurate clocks in GPS satellites which will allow synchronisation to the main studio from a remote location without physical connection.

PT5211, is an extremely flexible Change-Over Unit capable of switching all kinds of video, audio, and sync signals, and it is designed to meet the requirements for extremely high reliability offering a MTBF as high as 80.000 hrs.

PT5202 is a cost effective stand-alone solution with an internal 10MHz TCXO master reference, genlockable, with a user friendly front panel control
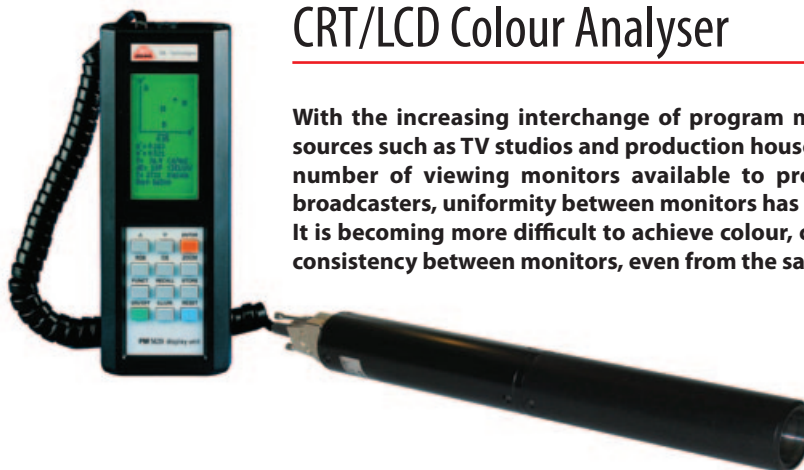
CRT/LCD Colour Analyser

FEATURES...

- Colour balance alignment of LCD, Plasma and CRT monitors

- Handheld battery operated display unit

- User-friendly RGB bargraph display for easy adjustment of the monitor

- High speed operation for automatic manufacturing systems

- Communicates with standard RS-232 interface

- True CIE Standard Observer characteristics

- Reproducible and accurate alignment of any monitor
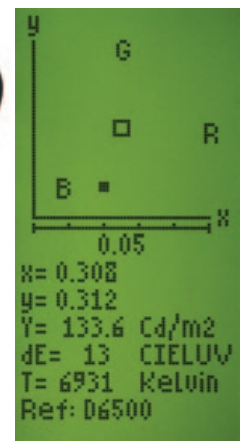
- Calibration traceable to international standards

With the increasing interchange of program material from different sources such as TV studios and production houses and the ever greater number of viewing monitors available to programme makers and broadcasters, uniformity between monitors has become a critical issue. It is becoming more difficult to achieve colour, contrast and light level consistency between monitors, even from the same manufacturer.

Colour balance alignment of LCD, Plasma and CRT monitors can be achieved with the user-friendly RGB bargraph display delivering easy adjustment of the monitor. Two absolute measuring modes are available in the PM5639, both defined by CIE, the International Commission on Illumination.
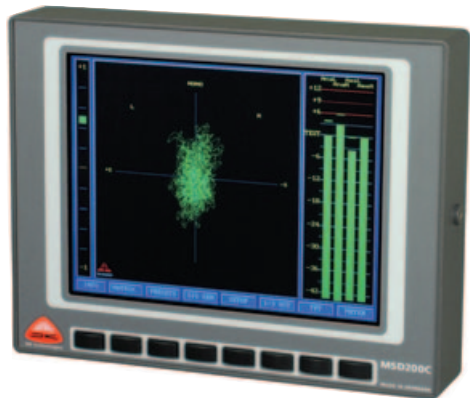
Solutions in Audio & Video

Measuring of white balance on an LCD monitor by use of DK-Technologies LCD colour sensor.

```
y
        G
            R
  B
        0.05              x
x= 0.308
y= 0.312
Y= 133.6 Cd/m2
dE=  13  CIELUV
T= 6931  Kelvin
Ref: D6500
```

The CIE display showing the measurement as x,y coordinates. The solid ball is the actual measurement, while the square is the target.

DK-Technologies Product Showcase

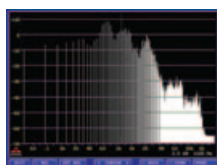**DK - Technologies**

Master Stereo Meter

The MSD200C and PT0200C Master Stereo Meter from DK Technologies offer phase meter, audio vector oscilloscope and PPM / VU level meter as the primary tools. The Level Meter has direct selection of 7 PPM/VU scales. All the standard scales are available including Nordic, EBU, BBC, ABC, NBC, DIN, VU, Digital and others. Each scale can be configured individually concerning overload level and reference level and the colour and width of each PPM bar can be set by the user. The DK-Scale™ software program for Windows contains a large library of scales which can easily be downloaded to the meter.
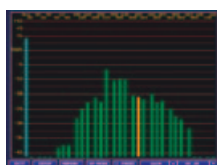
The spectrum analyser section has both an FFT-analyser and a 1/3 octave analyser. The FFT is primarily used for accurate measurements and exact identification of problem frequencies.

To this end a cursor is available and level and frequency will be shown for each cursor position across the frequency range on the display.

The MSD200C has built-in signal generator which is variable in frequency from 31 Hz to 20000 Hz, and the level in steps of 0,1 dB. The generator can also generate the EBU test signal, pulse signals, and white and pink noise signals for use with the spectrum analysers.

The FFT spectrum of the input signal is calculated at 1024 discrete frequencies.

The 1/3-Octave spectrum shows the energy distribution of the input signal.

FEATURES...

- 2 analogue audio and 1 AES3 input and output are readily available for choice of format
- Features Stereo Peak Programme Meter for audio level measurements
- 7 scales directly selectable to conform to standard used
- PPM colours and headings are user programmable for easy identification
- Phase correlation meter indicates proper phasing to allow for mono downmix
- Choice of 1024-point FFT spectrum analyser and 1/3-octave analyser for display of frequency distribution of each channel over full audible range
- AES3 bitstream status display indicates characteristics of the digital audio signal
- VGA output

Compact Audio Loudness Meter (CALM)

The DK Meter has been designed to meet the increasing demands from the market for cost effective audio metering including loudness. It is easy to use and is supplied with all known loudness measurement recommendations as well as the standard DK-Technologies meter scales.

This groundbreaking Compact Audio Loudness Meter is no bigger than an smartphone and is designed to meet increasing demands from the market for cost-effective stereo and 5.1 metering, including loudness.

The DK Meter is easy to use, easy to install and comes with its own desk-mount. It accepts digital audio inputs and is supplied with ITU, EBU & ATSC loudness measurement recommendations, as well as the standard DK-Technologies meter scales.

The DK meter will also provide you with Graphical Loudness measurement as well as the award winning StarFishTM Surround Sound display in DK2 and the vectorscope for DK1. Updates will be available on an 'as-required' basis to allow for any new recommendations or changes to the existing ones.

FEATURES...

- Loudness measurement to ITU, ATSC and EBU recommendations
- Compatible with all DK-Technologies meters
- USB Powered
- User-adjustable sliding window
- Selectable reference frequencies
- Adjustable reference level
- Variable gate settings
- Stereo metering with BBC, DIN, Nordic, ABC, DMU & DFS, LU, LKFS or LUFS scales
- Phase indication as a moving bar between +/-100%
- Dynamic Gate
- Numerical indication of loudness & loudness range - LRA
- True Peak displayed as flying peak & numerical display
- Simple front panel controls
- Update capability via local PC
- Desk or rack mount

Solutions in Audio & Video

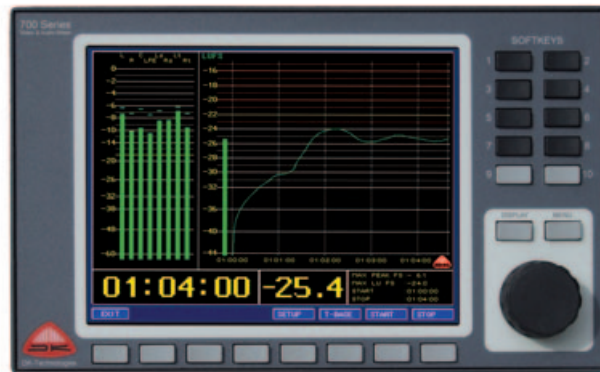DK - Technologies

FEATURES...

- Multiple Loudness scales

- Comprehensive logging of the meter

- The Peak Programme Meter measures level of up to 32 audio channels simultaneously.

- 7 scales directly selectable to conform to standard used.

- PPM colours and headings are user programmable for easy identification.

- Audio Vectorscope for stereo and surround sound with unique JellyFish™ & StarFish™ display supports aural impression at a glance.

- Multiple phase correlation meter indicates proper phasing to allow for downmix .

- Rotary knob controls output volume for direct connection to active monitor loudspeakers (Ex MSD600M++ & PT0600M)

- Presets are directly accessible for fast recall of settings

- A choice of options to include Dolby E/D (AC3) decoder (700 Series only), analogue and AES inputs & outputs and audio delay for up to 16 channels (700 Series only)

- Dolby Metadata display with Dolby E/D (AC3) decoder option fitted (700 Series only)

- Flexible internal audio generator, and sum and difference amplifiers.

- Choice of 1024-point FFT spectrum analyser and 1/3- octave analyser for display of frequency distribution of each channel over full audible range.

- AES3 bitstream status display indicates characteristics of the digital audio signal.

- Bright, VGA colour display with adjustable backlight allows adaptation to environmental light conditions

- DVI/VGA output via DVI connectot (700 Series only), VGA output (600 Series) connects directly to an external monitor for remote or larger display.

- Full remote control & dispay with optional PT0700R or via PC and Ethernet port (700 Series only)

Solutions in Audio & Video
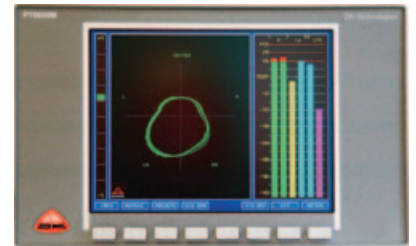
Surround Sound & Stereo Meters

PT0740M

The new 700 Series meters compliment the existing 600 series but provide many more functions, the 700 series can de-embed audio from HD/SD SDI video signals (PT0740 only), Dolby E/D (AC3) decode and display all the current loudness measurements instantly or over time. The user can view the levels in the traditional way with the multiple audio scales supplied and see loudness at the same time.

The Level Meter has direct selection of 7 PPM/VU scales plus all the standard loudness scales. Each scale can be configured individually concerning overload level, reference level and loudness. Furthermore the colour and width of each scale bar can be set by the user. As surround sound becomes more and more the standard in studios nowadays, accurate audio monitoring is becoming increasingly important. DK-Technologies' exclusive StarFish™ & Jelly-Fish™ surround indicator has become the adopted standard, presenting the surround sound image in a logical and intuitive way. The energy content of all channels is easily recognizable on the screen, and phase errors in individual vectors are immediately highlighted by a red colour.
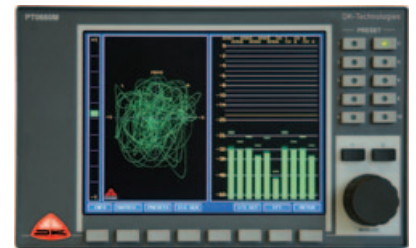
Both the 700 and 600 Series meters feature 5.1/6.1/7.1 Surround Sound Metering, DKTechnologies JellyFish™ & StarFish™, ITU Loudness with logging software, 32 Analogue or digital audio Inputs and 16 Analogue or digital audio Outputs, 32x16 Audio Matrix. Also provided are HD/SD SDI Audio De-embedding, BLITS 5.1 Surround Sound Channel Identification using the built-in Signal Generator.
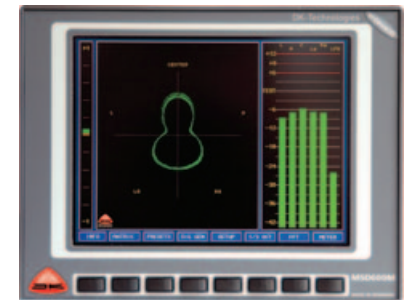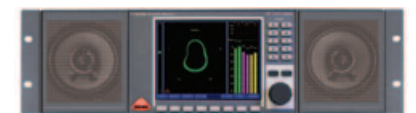
Available Options

PT0600M

PT0660M

MSD600M++

PT0660M-LS

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