Murraypro
The whole picture

Test Chest

The World's *FASTEST* Audio+Video Tester

Get a *FREE day*# *EVERY year with Test Chest.*

Test your Kit, *NOT* your patience!

It's amazingly fast in ***Which-Wire?*** mode! Connecting your mystery signal awakens Test Chest instantly, presetting it's bright 800x480 pix LCD and audio modes to present Waveform, TV Picture, or audio Metering as appropriate. The format is identified on a banner, with stereo sound too when digital audio is present. Regardless of whether the source is 3G/HD/SD-SDI, CVBS, HDVI*, Tri-level/Comp Sync; AES or even SPDIF digital audio, Test Chest takes them all in it's stride automatically, & *totally 'hands free'*.

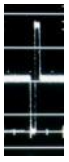
Test Chest completes the power-up, Display mode selection and source identification processes in around 3 seconds! After source removal, Test Chest will resume it's μ-power quiescence (with over 1 year in stand-by mode), until your next mystery IP! #With just 6 uses/day/year, Test Chest's lightning power-up rewards you with a full *extra* 24 hours usable time a year, referenced against rival Testers.

Which-Wire?*'s* unique auto-identification capability makes short work of fault finding, rectification and tedious Commissioning tasks.

Eliminate 'soft key' indecision….

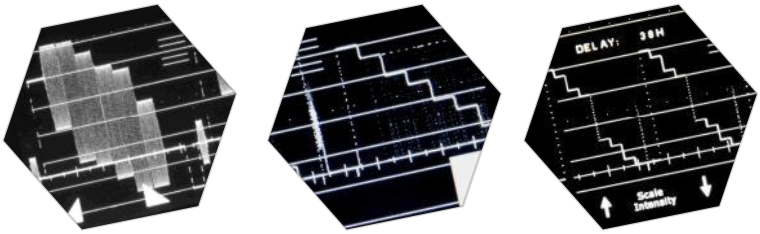
Test Chest's direct-touch screen icons and highly logical menu structure intuitively guide Users to their desired function, usually with only a couple of swift screen-taps, whether viewing, measuring, or generating test signals.

Icons react instantly to commands and provide immediate Banner confirmation of the selected mode, so setups are swiftly executed with none of those tedious delays associated with competitive products.....



Test Chest generates 10 bit test signals *with* Tri-level sync too on HD standards; whilst on SD, SDI *and* CVBS or 'Colour-Black' reference are available. User programmable text Ident, 'Aspect-Ratio' circles, and a moving puck (flagging frozen images), may also be overlaid.

Inputs are instantly identified



The Audio-POD is included

The Audio-POD clips securely to the main unit

CLAPPER Board, our unique and easy to use Audio/Video delay evaluation signal is included; functioning simultaneously in SDI + CVBS & AES + Embedded + Bal Analogue audio domains, it can enable A/V sync errors as low as ±1 Frame to be detected.

Test Chest provides twin ***H**igh **D**efinition **V**ideo **I**nterface ports which enable functionality of Computer and Graphics cabling & interfaces using TV related Standards to be established. Comprehensive HDMI testing is not supported.

WFM display embraces Industry standard 'Hor' and 'Vert' display formats with the LCD's interface providing nifty X/Y navigation, Y/Ch switching and timebase expansion. The latter's horizontal-shift is cunningly coupled to the TV Line Counter, to show 'vertical-expand' delay.

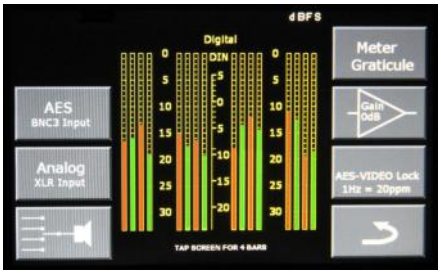
Vector displays, YRGB, RGB and YCrCb Parades (SDI/CVBS) are crisply presented too.

When required for timing purposes, the WFM can also be externally triggered.

The Generation + Monitoring elements are totally independent, and Test Chest happily performs these functions on different standards simultaneously. *So ~ twice the capability!*

You'll really appreciate Test Chest's analogue features when investigating Composite, Tri-level or 'Colour Black' Sync problems.

Test Chest covers Audio testing for Digital AES and Embedded over 0 ~ -80dBFS in 1dB steps, with ±10dbU *balanced* analogue range ideal for checking amps & meters. Tests will uniquely identify each channel/4 within a Group; or individually each of the 16 Embedded channels. Naturally, Test Chest provides 4/16 Ch histogram metering to facilitate checks on all this!



Stereo phase indication with VU or PPM histograms and numeric dB read out are provided too. AES clicks which are due to 48KHz Word Clk issues, will be swiftly found with Test Chest's automatic "AES/Ref Locked?" checking Utility.

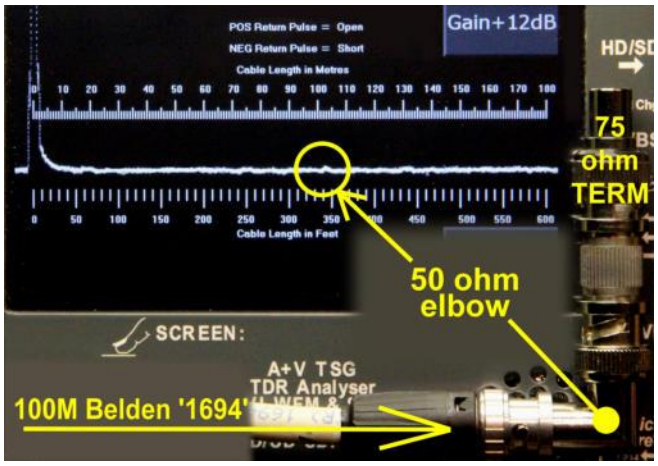
Cable length comparator

After setting cable parameters, Test Chest indicates whether the current input cable exhibits '*higher*' or '*lower*' loss than your reference cable.

CAUTION: Digital Cliff may be approaching!

User programmed Idents

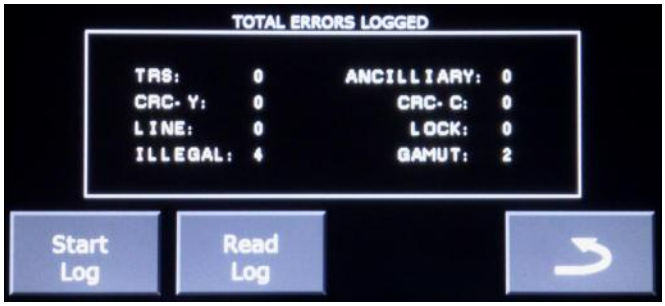
TDR testing for cable anomalies....



Our unique TDR tester probes 75Ω networks under evaluation with 16nS radar-like pulses, *showing and precisely locating* detected return loss anomalies. The photo shows Test Chest indicating the presence of one 50Ω elbow in series with the distant 75Ω termination.

So now, straight to the root of the problem with a precise diagnosis. *Yet another time saver!*

Time-stamped event Log



Test Chest scans the SDI input monitoring for protocol anomalies. When detected these are individually logged against ToD or VITC, and stored internally in NV Memory. Up to 99 time stamped error events are available for downloading via USB for external analysis.

"No use if the battery's flat", so we designed for 3H+ Li-Po battery endurance, with many Users reporting over of 4 hours continuous use! We ensure too that the battery will not over-charge when Test Chest is on mains power.

Additionally.....

No use either if it's broken! So Test Chest is supplied with 'ez-grip' resilient rubber sleeves and high impact ABS case lined with die cut high density foam providing additional protection for Unit, battery charger and the Audio-Pod module.

Safely stored within the carry-case lid, Audio-POD will clamp rigidly to the Test-Chest to produce an exceptionally robust XLR interface.

A highly versatile XLR/BNC bi-directional 110Ω/75Ω AES matching transformer is included, to cover all matching requirements!

Test Chest's flashlight is an elegant feature frequently praised by both Location Staff and Users who've struggled to read labelling, often with poor lighting and limited accessibility.

We're told "Engineers don't read Manuals", so we've included a laminated 'Quick Guide', to ensure that guidance is always available!

Test Chest has benefited from Murraypro's many decades of Broadcast experience. Often seemingly small features, like our *instant-**ON*** & touch-control, with on-screen push-shift have far reaching advantages. So, we thought:- 'Make it fast & easy to use'; we've improved on that, making it '*very* fast, and *very* easy to use'.

More information, and a demonstration video are available @ *www.murraypro.com*

Make *Test Chest your* Tester

Our ***EYE~POD*** accessory can be quickly coupled to any existing Test Chest unit to extend the measurement capability to include SMPTE Eye & Jitter parameters.

Test Chest

Specification

Top quality connectors

VIDEO FORMATS

1080p @ 50, 59.94, 60 Hz. Level A & B + Tri-Level.
1080ps@ 23.97, 24, 25, 29.97, 30Hz, Tri-Level.
1080i @ 50, 59.94, 60Hz, Tri-Level.
720p @ 50, 59.94, 60Hz, Tri-Level.
625i @ 50 Hz SD-SDI + PAL or Black Ref.
525i @ 59.94Hz SD-SDI + NTSC or Black Ref.
HDVI HDVI IP supports TV related scan formats.
(Tri-level: detection & generation is supported on HD Standards only)

AUDIO OP & Oscillator

AES 110Ω* & Embedded: 48KHz, 27MHz locked.
Analogue*: Stereo Balanced Lo Z OP lines.
Osc:100~10KHz;
Digital OP: -80 ~ 0dBFS.
Analogue OP*: -10dBU ~ +10dBU.

Audio IP

Ext AES 48KHz & SDI Embedded.
Analogue*: Stereo Balanced Hi Z IP lines.
Histogram: PPM ~ BBC/Nordic/Din & Digital Scales.
or: VU ballistics and scaling.
Gain: 0, +30dBFS, +60dBFS on Digital Scale only.
Numeric: dBU, Damped ballistic for Tone measurement
Stereo Phase: A1/2 & A3/4 Error detection & flagging.

IP Ports

BNC1: ***WW?*** @ 75Ω; 3G, 1G5, SD, SDI, CVBS, Tri-level, Colour Black, AES & SPDIF.
HDVI in: supports TV related scan formats.
BNC2: Ref in, Gen-Lock, 75Ω~AES 1V & SPDIF 0.5V
Balanced dual (stereo) 0dBU Hi Z analogue audio*
Lemo 2 pin: 12~24 Volt dc. Power input: 15VA max

OP Ports

BNC4: 3G/HD/SD SDI 75Ω 800mV$_{pp}$
BNC3: CVBS 75Ω 1.23V$_{pp}$ (100% Bars)
BNC2: TDR; 75Ω Cable test.
HDVI out: 800x480 scan format.
Balanced Stereo Analogue* 30Ω/leg -10/+10dBU
AES@ 110Ω* -90 ~ 0dBFS, 3V$_{pp}$ envelope

TDR: 16nS 75Ω cable test: 5-180M. 0/6/12dB gain.
Clapper Board: Video/Audio delay error Test Sig.
Audio level: Digital numeric display +/- 0.1dB nom.
Audio level: Digital fast bar display +/- 0.1dB typ.
Audio level: Analogue fast bar display +/- 0.3dB typ.
Video level: SDI source +/- 0.1dB nominal.
Video level: CVBS source +/- 0.3dB typical.
De-embed OP: to Stereo LS, AES & Analogue ports.
Analogue WFM: <-1dB @ 6MHz nominal,
-3dB @ 10MHz nominal.
48KHz: AES/Video lock detection & flag.
Stereo Phase: ChA/B & ChC/D, Group selectable.
High res 800x480 Touch screen 15:9 LCD panel.
Stereo Loudspeakers & Muting Headphone jack.
Stereo Headphone, 3.5mm 30 Ω, level limited.
Battery: 3 AH Li-Po & internal charger.
3~4 Hour endurance typical.
Low power: “unattended TSG” battery mode.
Robust extruded alloy case: Splash & dust to IP50.
Ext Universal PSU: 3 pin IEC320 Mains~ +12V 15W.
Size: 180x135x35 Weight: 0.72KG

Audio-POD (Included with *Test Chest*)
XLR3 IP & OP
AES: XLR~BNC, 110:75Ω Txfr with 10dB attenuator.
Audio & AES XLRs interface with Test Chest D25 port
Size: 105x135x35 Weight: 0.58KG (inc plate)
Case: 285x250x95 Weight 2.3KG (loaded)

Harmonised Tariff: 90304000 EORI: GB 225 9960 35 000 CE DS-HDVI-1V3

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