

1033CC

Mk II Closed Caption Calibrated Distortion Unit



Key features

- Generates line 21 Closed Caption and Text test signals
- 8 different signals inserted in field 1 and 2
- Extended Data Service Test Data
- V-Chip Test Data (with optional PC control)
- Adjustable interference signals



For calibrated testing of 525 line Closed Caption decoders

The 1033CC Mk II is one of SysMedia's family of Calibrated Distortion Units, which have gained a worldwide reputation for dependable results and reliable performance. The 1033CC Mk II is designed to enable calibrated tests to be carried out on 525 line Closed Caption decoders in accordance to the EIA-608 Recommended Practice for line 21 data services.

Its many applications include performance checking of TVs equipped with Closed Caption decoders and set top Closed Caption decoders in a production environment and as a development instrument for decoder and IC manufacturers.

Performance in operation

The 1033CC Mk II is a self-contained rack-mounted unit, which does not require a video input. It provides a video cross hatch waveform where the vertical component is equal to a single closed caption pulse.

The major functions are controlled by easy-to-use rotary controls and push buttons on the front panel. Switches on the rear panel enable semi-permanent settings such as data position and Field 1 or Field 1+2 mode.

The 1033CC Mk II offers, as standard, eight separate static test sequences which are generated from EPROM and provide data for Captions, Text and Extended Data Services (XDS).

Captions are programme-related data inserted on line 21 which may be transmitted on either field. They are transcriptions of the soundtrack and are given priority over any other line 21 data.

Text is a mode which transmits data that is normally non-programme related and is generally displayed in a manner which isolates it from the programme video.

Extended Data Services (XDS or EDS) is a data mode transmitted in Field 2 that supplies information to the viewer in addition to the caption data for various extended functions.

XDS information is included with each caption in field 2 and provides data in accordance with EIA-608 for Current, Future, Channel information, Misc and Public Services classes.

Included in the XDS transmission is the necessary data to enable decoder manufacturers to test the V-Chip features of their decoders. This data is coded in accordance to the EIA-744-A Transport of Content Advisory Information using XDS.

The tests Cover potential control data for MPAA, USTV Parental Guidelines, canadian English Language rating and Canadian French Language rating systems.



The XDS data generated by the 1033CC Mk II can also be controlled by an optional PC software application which is described in more detail in the **1033CC Mk II Extended Data Services / V-Chip Supplement** which also includes details of the static test data content.

Three adjustable interference sources are available for:

Controlled reflections. The eye height value is continuously shown on the LCD display. Accurate push button control of the data eye height is achieved by using the 'Delphi' principle using push buttons. The unit has three pre-set buttons giving outputs of 45%, 60% and maximum.

White noise. Noise can be introduced by calibrated or variable amounts to the signal to assess equipment performance rapidly and accurately.

Co-channel Sinewave. The unit also allows users to introduce high-frequency and low-frequency simulated co-channel interference in calibrated or variable amounts.

An optional, internally fitted RF modulator provides an uncalibrated VHF output on Channels 3 or 4 for comparing decoders.

Specifications

<i>Video output/amplitude</i>	1 V pk-pk or 2.5 V pk-pk interlaced or non-interlaced sync
<i>White noise</i>	Bandwidth 10 kHz - 5 MHz \pm 1 dB. Calibrated position set to -21 dB. Variable -8 dB to -60 dB
<i>Simulated Co-channel</i>	Unlocked sinewave of 5/3 or 10/3 line frequency (selectable). Calibrated position set to -39 dB. Variable -14 dB to -60 dB
<i>Data lines inserted (VBI mode)</i>	Up to 10 in range 10 to 21. Selectable first field only or both fields. (Factory setting Line 21 single field only)
<i>Data level</i>	Calibrated position set to 50 IRE., Variable <150 mV to >600 mV.
<i>Data bit rate</i>	503496.5 Hz \pm 0.0025%
<i>Data eye height</i>	0% \pm 0.5% to 98.5% in 0.1% increments
<i>Eye height reduction method</i>	One negative echo followed by one positive echo with a 1T and 2.5T delay respectively. (T = 1 data bit period)
<i>Eye height display outputs (BNC connectors)</i>	X - Sinewave of 125.874125 kHz \pm 0.0025%, 5 V pk-pk 75 Ω nominal. Z - Unblanking signal positive or negative sense (selectable), 5 V pk-pk 75 Ω nominal.
<i>Auxiliary input (inverting) (BNC connector)</i>	1 V pk-pk 75 Ω nominal
<i>Auxiliary outputs (2 mm sockets)</i>	Data, Data lines, Gated clock, Sync Video blanking TTL level, 2 mm socket.. Logic ground 0 V, 2 mm socket.
<i>Dimensions</i>	2U high, 19" rack or desk mounting
<i>Power supply</i>	85-250 V AC 0.6-0.2A 50/60 Hz



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