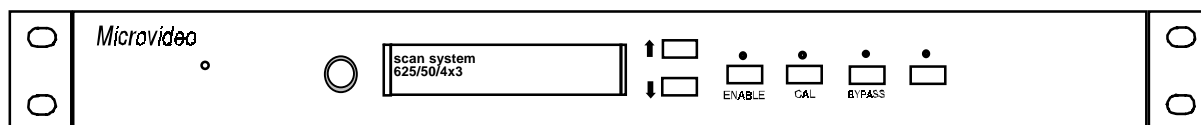


# Microvideo

## Video Index Data Inserter

### Product Description

The Video Index Data Inserter is used to generate Video Index Information Coding as described in SMPTE document RP186. This data is then inserted into a serial digital video stream in the manner defined by RP186. The data is entered from the front panel, GPI 's or from remote control RS232 / 422.



### Video Index Coding

It is a technique used to encode program and picture related source information in conjunction with a component digital video signal. The data is encoded in bit 2 of the chrominance signal (assuming a 10 bit signal where bit 0 is the lsb and bit 9 is the msb), on lines 11 and 324 for a 625 line signal, or lines 14 and 277 for a 525 line signal.

The data is organised into three groups called classes.

- Class 1 Information required to display or perform processing upon the picture
- Class 2 How the video was originated or previously processed
- Class 3 Other information relating to the video but not needed for display

The Classes are further divided into sub classes (eg. Class 1.1, 1.2 and 1.3). For full details of all the information that can be transported by the video index system we advise studying the SMPTE document. A copy of this document can be found in SMPTE Journal of Aug 95

### Signalling Aspect Ratio in Digital TV Systems

The main application for Video Index has been to signal the aspect ratio within wide screen systems. A number of Aspect Ratio Converters will read the Video Index and autoswitch based upon the it.

UK broadcasters have also utilise some of the spare bits, in the standard to convey Active Format Descriptor (AFD\*). This AFD data will indicate how the picture should be treated / displayed, by equipment such as aspect ratio converters and set top boxes. For example in a 4:3 frame you may have a 14:9 letter box. The source AR is therefore 4:3 and the AFD is 14:9.

The Video Index Inserter can support the signalling of this AFD data.

## Video Index Inserter Datasheet

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Within a system using video indexing it is not necessary to support all classes (or even sub classes), however it is mandatory to provide class 1.1 data.

With standard software the Microvideo Video Index Data Inserter allows you to insert class 1.1 data and the AFD extensions for UK Digital Terrestrial TV.

Class 1.1 data fields are:

Scanning system - defines if it is 525 or 625, 16x9 or 4x3 (this defines source AR in DTTV)

Signal source form - RGB, YUV, NTSC, PAL, PAL-M, SECAM (not needed for DTTV)

Sampling structure - 4:4:2, 4:4:4, etc. (15 possible settings - not needed for DTTV)

The AFD extensions are :

	<b>State</b>	<b>Binary</b>	<b>Definition</b>
0	0 0 0		Active region same as coded frame (source material)
1	0 0 1	4:3	
2	0 1 0	16:9	
3	0 1 1	14:9	
4	1 0 0		not used reserved for future use
5	1 0 1	4:3 with shoot and protect	14:9 centre
6	1 1 0	16 : 9 with shoot and protect	14:9 centre
7	1 1 1	16 : 9 with shoot and protect	4:3 centre

**Inputs:** Program - Serial Digital Video (270Mb/s).

**Outputs:** Main Program - Serial Digital Video (270Mb/s) with power fail bypass

Auxiliary - Serial Digital Video (270Mb/s).

Monitoring - PAL/NTSC analogue composite video (Optional).

Note that when the unit is inserting the Video Index data, only bit 2 of the chroma is affected. The Luminance samples, and the other bits of chroma are passed through unchanged.

**Control:** Front panel controls allow setting of all Class 1.1 parameters and the AFD extensions.

GPI inputs allow setting of the source AR and the AFD parameters

RS232 / RS422 enable remote setting of all parameters

**Physical:** 1U case 400mm deep. Power 60VA. 110/220/240 link select.

**Product Code:** INS-VIG Video index data inserter unit

**Option:** -MON Analogue Composite video output for PAL/NTSC monitoring.