Microvideo

INS-WSS-AFD

ASPECT RATIO SIGNALLING DATA INSERTER

Features:

- Inserts line 23 - Aspect Ratio Data
- For UK DTTV applications
- Front panel or remote control
- Serial Digital Video interface (270Mb/s)
- Power fail by-pass relay

In a broadcast system which is using both standard 4:3 and wide screen (16:9) format pictures it is useful to label the video signal with aspect ratio information. This allows equipment in the transmission chain to know what the picture format is. Microvideo supply Data Inserters and Decoders for this Aspect Ratio Signalling.

The first half of line 23 is being used to carry aspect ratio information about the picture for systems with the capability of having wide screen images. We are able to support two wide screen data signalling formats :- ETSI PAL Plus and UK DTTV AFD. For ETSI PAL Plus see INS-WSS-PAL

Data format :

Data is put on line 23 using Biphase coding with a clock frequency of 1.67MHz. This is low enough to be recorded by consumer VCR's and decoded in the presence of noise. The data packet has a duration of 27.4uS. It consists of a sync run in, data identification, followed by 14 data bits.

Active Format Descriptor for Digital Terrestrial :

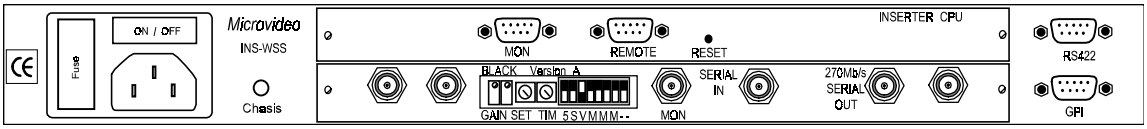
The waveform used is of the same specification as ETSI PAL Plus but the 14 bits of data are interpreted differently. They are used to convey the source aspect ratio (4:3 or 16:9) and the active format descriptor (AFD) that is required for digital terrestrial systems. This data is similar to that transported by Video Index signalling (See Microvideo Video Index Inserter INS-VI datasheet).

Specifications

Video in/out : Serial digital video (270Mb/s) to SMPTE259M (EBU Tech 3267-E)
Two SDV outputs; PROG out (has power fail relay bypass) and AUX out.

Monitor Out : (-MON Option) Analogue Composite PAL/NTSC of the Video Output

Analogue VBI in : (-AN Option) Analogue Y only sampling. For Teletext or other VBI Data.



MICROVIDEO LTD, Front Office, Copley Hill Farm, Babraham, Cambridge, ENGLAND CB2 4AF
Tel +44 1223 834119 Fax +44 1223 834471 Email : sales@microvideo.co.uk Web www.microvideo.co.uk
Datasheet ref : ins-afd6.dtp

Control

Front Panel

The unit may be controlled through front panel operation.The menus are as follows -

Coded Image	This is used to signal Source Aspect Ratio (4:3 or 16:9)
AFD	Active Format Descriptor, allows setting of values 0 to 7
GPI enable	enables / disables GPI inputs
User Bits	Allows setting of the 4 additional user bits. These can be used to carry user GPI data.
Reserved Bits	3 bits are not defined and usually set to 0, however they can be set to any value from 0 to 7.
Line 23 enable	Line 23 can be passed through, blanked or have the required Aspect Ratio data inserted.

Note : If the Inserter is also required to insert Analogue VBI data such as teletext there will be additional menus to facilitate setting up these parameters.

GPI Control

The unit has 5 GPI control inputs -

C1	Insert Data (1) and Bypass (0)
C2	Sets aspect ratio of source material (16:9 or 4:3)
C3,C4,C5	Sets the AFD information inserted

Has the following definition -

0 0 0	Active region same as coded frame (source material)
0 0 1	4:3
0 1 0	16:9
0 1 1	14:9
1 0 0	not used reserved for future use
1 0 1	4:3 with shoot and protect 14:9 centre
1 1 0	16:9 with shoot and protect 14:9 centre
1 1 1	16:9 with shoot and protect 4:3 centre

GPI inputs need to be held in state required. Unconnected GPI's are held high (TTL levels). The relevant signalling bits on line 23 will change immediately after GPI control changed or on receiving a complete instruction packet from the remote input. Front panel control will also have immediate effect.

Front Panel controls will allow enabling and disabling of GPI inputs

RS232 / RS422 Control

Comms standard is 19,200 Baud rate with No Parity, 8 Data bits, 1 stop bit, no handshaking.

RS422 can over write front panel control settings and can enable / disable GPI inputs.

RS422 cannot disable front panel control, this can only be done with 'panel disable' button on front of unit.

GPI C1 (bypass / insert) will alway be active even if front panel or RS422 has signalled, disable GPI's.

Front panel will always display the current status of the inserter.

Ordering Information:

INS-WSS-AFD	Widescreen AFD Data Inserter for Line 23
options	
-ITS	Insertion Test Signals, UK or CCIR patterns
-AN	Analogue input for other VBI sources
-MON	Analogue PAL monitoring output
- DM	Dual Mains Inlet

MICROVIDEO LTD, Front Office, Copley Hill Farm, Babraham, Cambridge, ENGLAND CB2 4AF
Tel +44 1223 834119 Fax +44 1223 834471 Email : sales@microvideo.co.uk Web www.microvideo.co.uk
Datasheet ref : ins-afd6.dtp