

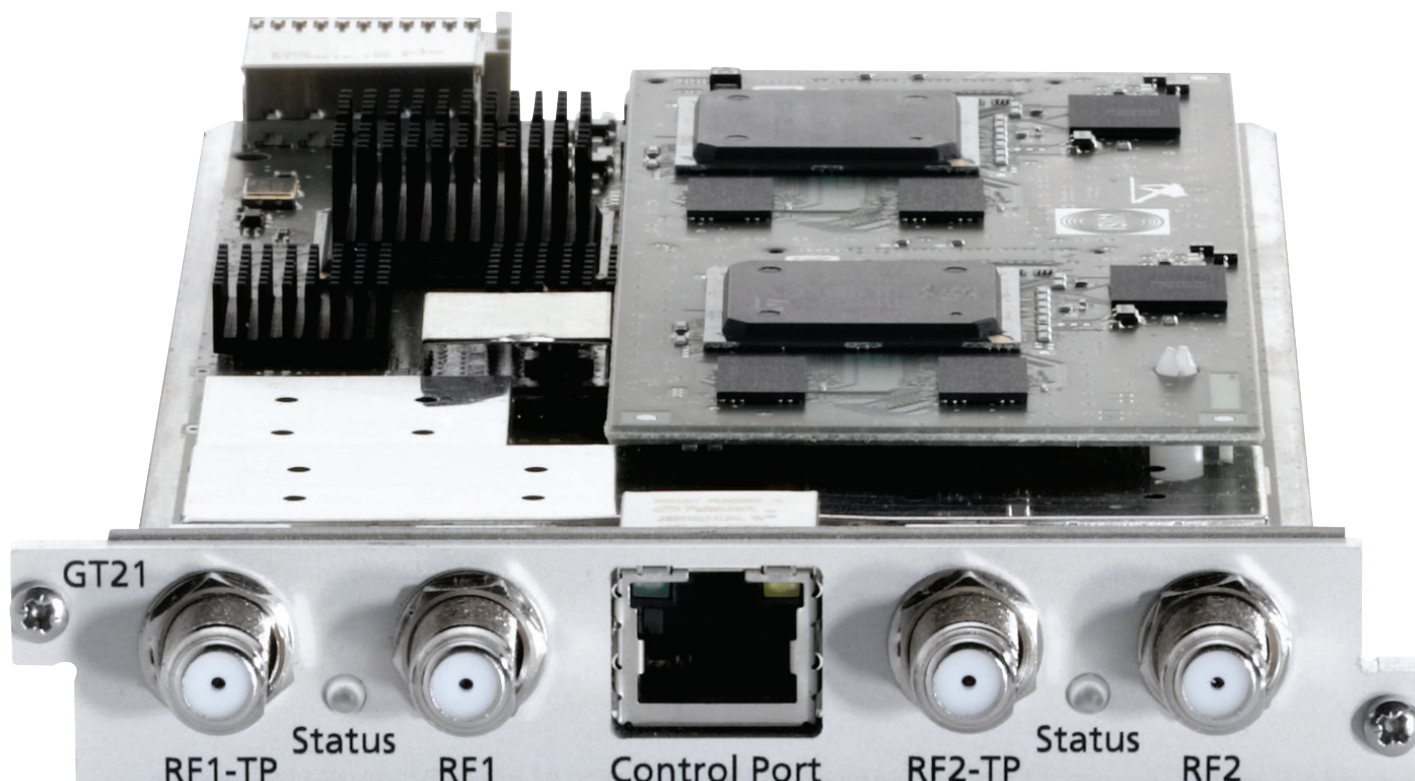
WISI Tangram Module IP to 6x PAL/SECAM/NTSC 14MM-GT21W

The GT21W module is part of the Tangram product portfolio. The GT 21 W module allows you to add up to 6 services in PAL /SECAM format per module to your network. Tangram is a very high density and highly flexible solution for all kinds of networks. The WISI Tangram chassis uses a fully redundant concept (n+1, 1+1).



Features and Benefits

- » High-quality IP to analogue PAL/SECAM/NTSC modulation with up to 6 analogue channels on 2 RF outputs
- » HD to SD downscaling functionality
- » MPEG-2 H.262 and MPEG-4 H.264 decoding (SD & HD)
- » Temperature and output level monitoring
- » RTP/ IP input streaming with FEC error correction
- » Outstanding signal parameters by direct digital modulation



14MM-GT21W Specifications

Streaming-Input	
IP-Inputs	32 pcs
IP-Compliance	ISO/IEC 13818
IP-Input Bitrate	Max. 425 Mbit/s per IPTS, Max 850 Mbit/s total
IP-Input Protocol	UDP/RTP/RTP+FEC Unicast and Multicast, IGMP v2 and v3
IP-TS-Input Format	SPTS CBR/VBR, MPTS CBR
IP-FEC Inputs	Yes, with GTFEC License
IP-FEC Compliance	SMPTE 2022-1, SMPTE 2022-2
IP-Packet Format	MPEG over UDP/IP and RTP/IP
IP-Packet Size	188 Byte
IP-PCR Restamping	Yes
IP-Dejittering	Yes, per default 100ms, individual adjustable
Video processing	
Video Decoder	6x MPEG-2 SD (MP@ML) 1,5..15 MBit/s or 6x MPEG-4 SD (MP@ ML) Level 4.1 or 3x MPEG-4 HD (MP@HL) Level 4.1
Video Downscaling	3x MPEG-4 HD and 3x MPEG-2 SD concurrent (PAL/SECAM) or 2x MPEG-4 HD and 2x MPEG-2 SD concurrent (PAL-M/NTSC)
Video Formats	4:3/16:9/4:3 Zoom
Video Standard	PAL/SECAM/NTSC
Video Scaling	Auto, Ignore, Letterbox, Pan and scan, Combined, Forced
Vertical Blanking Interval	WST Teletext inserting (lines 7-15, 20-21), VPS inserting (line 16) WSS inserting according to aspect ratio
Subtitle	DVB and Teletext (EBU) EN 300 743, SCTE 27
Test Lines	Line 17, 18, 330, 331
Test Carrier Wave	Yes
OSD Video	Yes, text or picture PNG (<400kB)
OSD Radio	Yes, text or picture PNG (<400kB)
Compliance	ISO 13818-2 (MPEG-2/H.262);ISO 14496-10 (MPEG-4/H.264/AVC)
Video Parameters	
Differential Gain	<1.5 %

Differential Phase	<1.5 °
Group Delay Time	<50 ns (-0,5...4,43 MHz)
Static Nonlinearity	3%
Video Frequency Response	31 dB (10...5 MHz, CCIR 18)
S/N Video, weighted (CCIRrec. 567-1)	typ. 64 dB (at 1 channel; at 2/3 channels typ. 62 dB)
2-T Puls K Faktor	K <1.2 %
Test Picture	Color bars
Audio Processing	
Audio Decoder	ISO 13818-3 MPEG-1 (L1/L2) MPEG-2 (L1/L2), Dolby AC-3 (Dolby and the double-D symbol are trademarks of Dolby Laboratories. Manufactured under license from dolby laboratories)
Audi Dolby Decoding	Yes, with GTDOL software option (The Dolby audio decoding functionality requires a TANGRAM GT21W HW that is Dolby enabled. You can check this on the Serial number (S/N: 0462xxxxxxxxxxxxx Dolby is enabled, S/N: 0460xxxxxxxxxxxxx Dolby is not enabled). Older TANGRAM GT21W HW versions cannot be upgraded to Dolby apability. Please contact WISI Sales for more information)
Audio Language	ISO 639
Audio Format	Mono/Stereo/Dual NICAM/ BTSC/SAP
Audio Format Switching	Manual / auto
Audio Outputs Audio Outputs	PAL-625/SECAM mode: 6x Mono/Stereo/Dual NICAM, PAL-M/NTSC mode: 6x Mono, PAL-M/NTSC with BTSC mode: 4x Stereo(BTSC) + 2 SAP audio
Audio Parameters	
S/N Audio	75 % (with color testable)
Standard B/G/D/K/I/N	typ. 64 dB (weighted)
Standard NTSC	typ. 64 dB (weighted)
Standard-L	typ. 48 dB (weighted)
Frequency response	31 dB (40 Hz...15 kHz)

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PAL/SECAM/NTSC
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For the Best

VSB - AM Modulation	
TV standards	B/G, D/K, I, L, M, N
Channel Bandwidth	4.2/5/6 MHz
Output Level (each RF Port)	117 dBQV (1 ch), 113 dBQV (2ch), 111 dBQV (3 ch)
Output Level Stability	31 dB
Output Return Loss	≥14 dB (45 MHz) -1,5 dB/Octave
Output level setting	0...30 dB (0,5 dB steps)
Spurious (outside TV-Channels)	45...450 MHz, typ. 66 dB;450..862 MHz, typ. 64 dB
RF Parameters	
Output Ports	2 pcs
Channels Per Port	up to 3 (PAL-625/SECAM); up to 3 (PAL-M/NTSC); up to 2 (PAL-M/NTSC with BTSC)
Output Impedance	75 ff
Output Frequency	45...862 MHz
Output Frequency Window	34,2 MHz/port
Output Frequency Steps	1 kHz
Output Frequency Stability	310 kHz
Processing	
PCR Correction and De-jitter	Yes
Processing Bitrate	Max. 1200 Mbps total
Number of PIDs	Max. 2000 PIDs total
Connectors	
F-socket RF- Output	4 pcs. (2x RF-Output, 2x Test-Output -20dB 3 1dB)
RJ45	1 pcs. (for local management)
General Data	
Power Consumption	max. ≤26 W
Operating Temperature Range	-5°C...+45°C, 23°F...113°F, (ETSI EN 300 019-1-3 Class 3.1)
Max. humidty (Non-Condensing)	95%
Electro Magnetic Compatibility(EMC)	EN 50083-2, FCC CFR 47 Part 15(Class A)
Safety Compliance	CE, UL/CSA/CAN 62368-1
Signalling	Multicolor LEDs (Power on - green, Error - red)
Operation Mode	PAL-625/SECAM, PAL-M/NTSC,PAL-M/NTSC with BTSC
Hardware Revision	1001
Software Version	3.3.1
Dimensions (WxHxD)	100 x 20 x 250 mm
Gross Weight	0.33 kg