

ATSC_NTSC TUNER MODULE SPECS

REV B

11/10/06
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Manufacturer Part Number	Conv. Type	TV Formats Misc Specs	ATSC Decoder IC	VHF NF (dB)		UHF NF (dB)	
				typ	max	typ	max
<i>Alps Electric</i>							
TDMU7	???	ATSC	ATI NXT2002				
TEQH2 + TEQH9	Super-Het	GP Tuner	n/a	5.5		6.0	
TDEU	Super-Het	GP Tuner	n/a	7.0		7.0	
TDQU	Super-Het	GP Tuner	n/a	7.0		7.0	
TDHU2	Super-Het	ATSC, QAM, NTSC	ATI NXT2004	see TDQU		see TDQU	
EAI/CEA-909 Smart Antenna I/F (via RF AGC MONITOR & MPEG ERROR signals from tuner) Used in Sylvania 6900DTE STB + PrimeTV PHD101 STB							
<i>Comtech</i>							
DAVB-20046R1P	Super-Het	ATSC, QAM, NTSC	ATI NXT2004	6.0	9.0	7.0	10.0
Equalizer: -8 to +45 usec (conditions unknown) Max input: -5 (min) to 0 (typ) dBm 1% Cross Mod: 80 dBuV (min) NTSC Adj Chan D/U at -48 dBm) = -38 dB (min), -40 dB (typ) NTSC Adj Chan D/U (at higher dBm?) = -20 dB (min), -25 dB (typ) [Q: Spec error?]							
<i>LG Innotek</i>							
TDVB-H920P(F)	Single	ATSC, QAM, NTSC	LGDT3302A & LGDT3303				
Specs same as TDVS series							
TDVS-H061P(F)	Single	ATSC, QAM, NTSC	LGDT3303 5th Gen				
TDVS-H062F	Single	Used in DVICO FusionHDTV5 Lite					
TDVS-HW62F	Single	Used in DVICO FusionHDTV5 Gold and Gold_Plus					
ALL: Sensitivity: -78 dBm (hence NF ~ 13 dB) (hence NF ~ 13 dB) Equalizer: +/- 50 us (per prototype test) Overloading 0 dBm NTSC Adj Chan D/U = -40 dB (min) [Spec was missing the minus sign.] DTV Adj Chan D/U = -33 dB (min) [Spec was missing the minus sign.] NTSC Co-Chan D/U = 2.5 dB (typ)							
TDVM-H0001P(F)	Single	ATSC, QAM, NTSC, OOB	Broadcom BCM3520 [Q: And T313?]				
Equalizer: -35 to +49 usec (conditions unknown) Sensitivity: -83 dBm (hence NF ~ 8 dB) (hence NF ~ 8 dB) Overloading 0 dBm Adj & Co-Chan D/U: same as TDVB-H920P(F)							
EIA/CEA-909 Smart Antenna I/F							
Manufacturer	Conv.	TV Formats		VHF NF (dB)		UHF NF (dB)	

Part Number	Type	Misc Specs	ATSC Decoder IC	VHF NF (dB)		UHF NF (dB)	
				typ	max	typ	max
<u>LG Innotek</u>							
TDVT-H001P(F)	Single	ATSC, QAM	???		9.0		10.0
TDVE-H001P(F)	ALL:	Cross Modulation: 78 dB (VHF), 73 dB (UHF)					
<u>Microtune</u>							
404x	Super-Het	NTSC + ext. ATSC, QAM RF Input: 45 (min), 110 (max) dBuV IP3 (two-tone): 85 dBuV (min) 1 dB Compression: 80-85 dBuV (VHF), 80-84 dBuV (UHF) CTB, CSO > 60 dB	External IC's	7.0	9.0	7.0	9.0
4042		Used in DVICO FusionHDTV3	LGDT3303 5th Gen (on daughterboard)				
<u>Oren</u>							
NIM_x Cougar	???		Oren OR51200				
		Equalizer: -5.5 to +26 usec (conditions unknown)					
NIM_02	???	ATSC, NTSC	Oren OR51112				
NIM_02 (+QAM)	???	ATSC, QAM, NTSC	Oren OR51132				
<u>Panasonic</u>							
VP81HSR/HF	Super-Het	NTSC + ext. ATSC, QAM	External IC's	6.5		6.5	
<u>Philips</u>							
FCV-1236D/F HC		Used in pcHDTV HD-2000 Used in accessDTV	ext. Oren OR51211A NxtWave NXT2000				
TV1236	Super-Het	ATSC, QAM, NTSC	ATI NXT2004				
TUV1236	Super-Het	ATSC, QAM, NTSC, OOB EIA/CEA-909 Smart Antenna I/F Used in ATI HDTV Wonder	ATI NXT2004				
TD1336	???	ATSC, QAM, NTSC, OOB	???				
FQ1200 MK5	???	NTSC, PAL, SECAM	External IC's		4.8		4.8
FQD1200 MK5		NTSC, PAL, SECAM	External IC's				
Manufacturer	Conv.	TV Formats	ATSC Decoder IC	VHF NF (dB)		UHF NF (dB)	
Part Number	Type	Misc Specs		typ	max	typ	max

Samsung

TBMV30411IB	Super-Het	ATSC, QAM Equalizer: -6 to +40 usec (conditions unknown) Sensitivity: -82 dBm (typ)	BCM3510 Broadcom	10.0	10.0
TBMV48411INA	Super-Het	ATSC, NTSC	ATI NXT2002		
TBMV30311IN	Super-Het	ATSC, QAM	ATI NXT2002	10.0	10.0
TBMV30712IN1		Used in BBTI AIR2PC PCI Card Sensitivity: -82 dBm (typ)	ATI NXT2002	(hence NF ~ 9 dB)	(hence NF ~ 9 dB)
DNVS201AH382A	Single	ATSC, QAM	ATI NXT2004	10.0	10.0
DNVS221AV382A	Single	ATSC, QAM	ATI NXT2004	10.0	10.0
DNVS203AH482A	Single	ATSC, QAM, NTSC	ATI NXT2004	10.0	10.0
DNVS303AV482A	Single	ATSC, QAM, NTSC	ATI NXT2004	10.0	10.0
	ALL:	Sensitivity: -76 dBm (max) Sensitivity: -82 dBm (typ) AGC Gain Reduction: 50 dB Co-Channel U/D (at -53 dBm): 3 dB (typ), 6 dB (max) [Q: Presumably DTV?] Adjacent-Channel D/U (at -53 dBm): -40 dB (typ), -37 dB (max) [Q: NTSC and/or DTV?]		(hence NF ~ 15 dB) (hence NF ~ 9 dB)	(hence NF ~ 15 dB) (hence NF ~ 9 dB)
DNVS303EV261A	Single	ATSC, QAM, NTSC Equalizer Span: 88 usec [Q: Hence about -44 to +44 usec? Or -20 to +68 usec?] ATI claims they meet ATSC A/74 Guidelines	T310 (ATI Theater 310?)	10.0	10.0
DNVD355BV401A	Double	ATSC, QAM, NTSC, OOB Equalizer Span: 88 usec [Q: Hence about -44 to +44 usec? Or -20 to +68 usec?] ATI claims they meet ATSC A/74 Guidelines Sensitivity: -76 dBm (max) Sensitivity: -82 dBm (typ) AGC Gain Reduction: 70 dB Co-Channel D/U (at -53 dBm): 3 dB (typ), 6 dB (max) [Q: Presumably DTV?] Adjacent-Channel D/U (at -53 dBm): -40 dB (typ), -37 dB (max) [Q: NTSC and/or DTV?]	T313 (ATI Theater 313?)	10.0	10.0
				(hence NF ~ 15 dB) (hence NF ~ 9 dB)	(hence NF ~ 15 dB) (hence NF ~ 9 dB)
DTVS204CV421A	Single	ATSC, NTSC Max Input = 75 dBuV (single carrier) CSO = CTB = -60 dBc (max) for 133 channels	???	10.0	10.0

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ATSC Decoder IC

**VHF NF (dB)
typ max**

**UHF NF (dB)
typ max**

Thomson

DTT760X	???	ext. ATSC, QAM	External IC's	
DTT761X	???	NTSC + ext. ATSC, QAM Used in PCHDTV HD-3000 Used in DVICO Fusion HDTV3 Gold-Q/T	External IC's	
DTT86XX	???	ATSC, QAM EIA/CEA-909 Smart Antenna I/F	???	
DPF88XX	Single	ATSC, QAM, NTSC Dynamic Range: -86 to -5 dBm Equalizer Span: 88 usec [Q: Hence about -44 to +44 usec? Or -20 to +68 usec?] ATI claims they meet ATSC A/74 Guidelines NTSC Adjacent Channel D/U: -45 dB DTV Adjacent Channel D/U: -43 dB NTSC Co-Channel D/U (at -68 dBm): 2 dB	ATI Theater 313	(hence NF ~ 5 dB) (hence NF ~ 5 dB)

NOTE: Super-Het could be either Single or Double Conversion type

ATSC A/74 RECEIVER GUIDELINES:

Noise Figure: (not stipulated) [FCC Max is 14 dB and Planning Guideline is 10 dB.]
Sensitivity: -83 dBm [Hence Noise Figure ~ 7 to 8 dB.]
Max Input: -8dBm (for each of multiple input signals)
DTV Co-Channel D/U (at -68 and -53 dBm): +15.5 dB
NTSC Co-Channel D/U (at -68 and -53 dBm): +2.5 dB
DTV Adjacent-Channel D/U: -33 dB (at -68dBm), -33 dB (at -53 dBm), and -20 dBm (at -28 dBm)
NTSC Adjacent-Channel D/U: -40 dB (at -68dBm), -35 dB (at -53 dBm), and -26 dBm (at -28 dBm)
Minimum Echo Range: from -10 to +40 usec [Note: Implies D/U > 5 dB, see below.]
Recommended Profile: from 0 to +5 usec (for D/U > 1 dB) **[Note: 0 dB Echo is not stipulated.]**
from -5 to +10 usec (for D/U > 2 dB)
from -5 to +20 usec (for D/U > 3 dB)
from -10 to +40 usec (for D/U > 5 dB)
Suggested Extension: from -20 to +40 usec (for D/U > 7.5 dB)
Various other Dynamic Multipath Profiles

ATSC_NTSC TUNER MODULES: PCI CARDS

Source: pvrhw.goldfish.org/bttv and pvrhw.goldfish.org/bttv-gallery.html

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Manufacturer Model Number	Manufacturer Tuner Module	Mixer IC	ATSC Decoder IC	NTSC Capture IC
<i>iTech Group</i>				
AccessDTV	Philips FCV-1236D/F HC		NxtWave NXT2000	Philips SAA7146A
<i>ATI</i>				
HDTV Wonder	Philips TUV1236 D/F H		ATI NXT2004	Conexant CX23883
<i>BTTI</i>				
AIR2PC-ATSC-PCI Airstar-HD5000-PCI	Samsung TBMV30712IN1 LG P/N??? Prototype "Card B" tested by Mark Schubin and Bob Miller		BCM3510 Broadcom LGDT3303 5th Gen	not supported ???
<i>DVICO</i>				
Fusion HDTV3 Gold	Microtune 4042 FI5		LGDT3302A	Conexant CX23881-27
Fusion HDTV3 Gold-Q/T	Thomson DTT7611		LGDT3302A	Conexant CX23882-19
FusionHDTV5 Lite	LG TDVS-HO62F	TUA6034	LGDT3303 5th Gen	Conexant CX25878
FusionHDTV5 Gold & Gold_Plus	LG TDVS-HW62F New "Card A" tested by Mark Schubin and Bob Miller		LGDT3303 5th Gen	Conexant CX23882-39
<i>Micro Image Technology (MIT)</i>				
MyHD MDP-120	Old ???		ATI NXT2002	Janus DTVPC
MyHD MDP-130 (w QAM)	Old ???		ATI NXT2004	Janus DTVPC
<i>pcHDTV</i>				
HD-2000	Old Philips FCV-1236D/F HC		OREN OR51211A	Conexant CX25878
HD-3000	Thomson DTT7611		OREN OR51132	Conexant CX2388x
<i>Telemann</i>				
HiPix DTV-200	Old ???		Oak/TeraLogic ???	???
<i>Hauppauge</i>				
WinTV-HD	Old ???		NxtWave NXT2000	Janus DTVPC

ATSC_NTSC TUNER MODULES: OTA STBs

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Manufacturer Model Number	Manufacturer Tuner Module	Graphics IC	ATSC Decoder IC	
<u>Hisense</u>				
DB-2010 (USDTV/Walmart)	???		ATI NXT2004	
<u>LG</u>				
LST-3100A	LG Innotek p/n ???		???	3rd Gen
LST-4200A	LG Innotek p/n ???		LGDT3302A	4th Gen
LST-3100A (with mods)	LG Innotek p/n ???		LGDT3303	5th Gen
p/n ??? (USDTV w MPEG4)	Prototype "LG mod" STB tested by Mark Schubin and Bob Miller ???	SMP8634 ?	LGDT3303	5th Gen
<u>Macro Image Technology (MIT)</u>				
MDR-200 (Digital Connection)	???		ATI NXT2004	
Prototype P/N ???	???		LGDT3303	5th Gen
	Prototype "Non-LG" STB tested by Mark Schubin and Bob Miller			
<u>PrimeDTV</u>				
PHD-101	Alps TUHU2	ATI 226	ATI NXT2004	QAM
PHD-200	???	ATI 240	ATI Xilleon 240	5th Gen QAM/NTSC
PHD-205	Alps TDQU4-507A	ATI 240	ATI Xilleon 240	5th Gen QAM/NTSC
<u>Radio Shack</u>				
HTS-6000 Accurian	Thomson DTF8600		???	
<u>Samsung</u>				
SIR-T451				QAM
DTB-H260F	Alps TDQU3-001A	ATI 240H	ATI Xilleon 240H	5th Gen QAM
<u>Sylvania</u>				
6900DTE	Alps TUHU2-551A		ATI NXT2004	
	With EIA/CEA-909 Smart Antenna Interface			
<u>Zenith</u>				

HDV420

DPC-xxx

LGDT3102A 3rd Gen