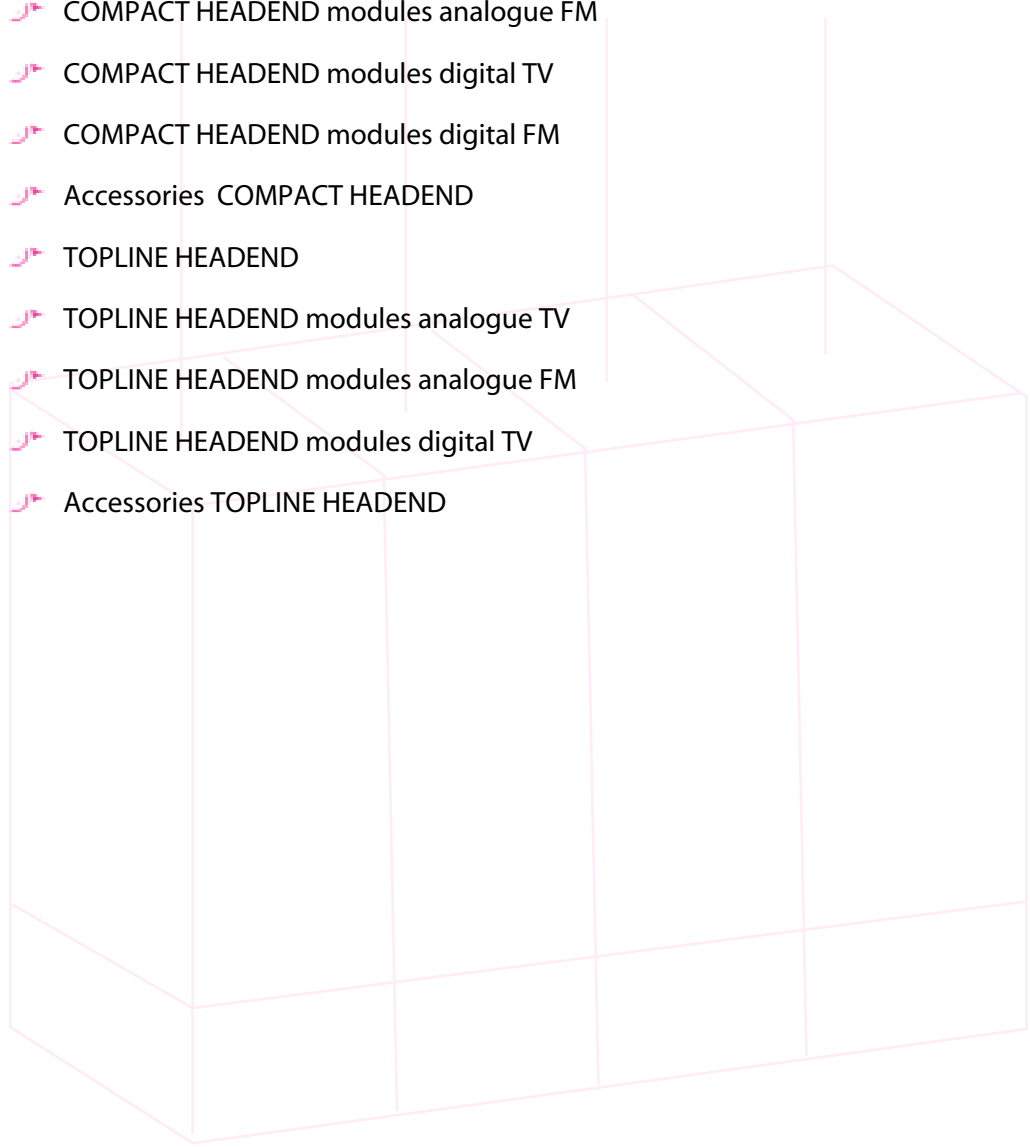


Channel processing

- MINI HEADEND analogue
- MINI HEADEND digital
- MINI HEADEND modules DVB-S
- MINI HEADEND modules DVB-T
- MINI HEADEND modules TS
- COMPACT HEADEND
- COMPACT HEADEND modules analogue TV
- COMPACT HEADEND modules analogue FM
- COMPACT HEADEND modules digital TV
- COMPACT HEADEND modules digital FM
- Accessories COMPACT HEADEND
- TOPLINE HEADEND
- TOPLINE HEADEND modules analogue TV
- TOPLINE HEADEND modules analogue FM
- TOPLINE HEADEND modules digital TV
- Accessories TOPLINE HEADEND



MINI HEADEND analogue

OM 03



MINI HEADEND, SAT analogue

- Reception of six analogue SAT IF signals
- Channel processing to six analogue TV channels
- LNB power supply 14/18 VDC 22 kHz, 600 mA
- Set up via handset OK41 / OK 41A

SAT

Input frequency range	950-2150 MHz
Input level	43-78 dB μ V

Video

Polarity	pos/neg
Video deemphasis	PAL/SECAM (625 lines)

Audio

IF range	5.5-9.0 MHz
Deemphasis	Mono adaptive / 50 μ s / 75 μ s / J17 / Stereo sum signal
Level	1 dB step size -12 dB ... +12 dB

Output

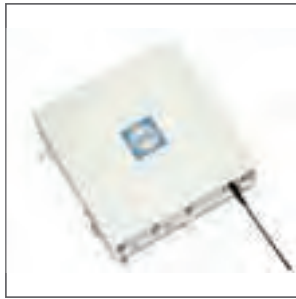
Output frequency	470-862 MHz
Output level	6 ch / 60 dB IMR 90-100 dB μ V
TV standards	B/G, D/K, I, L, M
Test pattern generator	black/white

General data

RF inputs and outputs	F-type
Power supply	230 VAC, 50/60 Hz \pm 10 %
Power consumption	\leq 15 W / 27 W with LNB
Operating temperature	0°C ... +55°C
Dimensions (W x H x D)	320x300x102 mm
Weight	3.4 kg
Decoder interface	D-SUB socket
EMC	CE, Class A

MINI HEADEND digital

OM 01



Basic unit digital

- Compact housing with power supply and RF booster amplifier
- Integrated backplane with all necessary connectors
- Capacity for up to 6 digital channel processor modules
- LNB power switchable via system menu
- Easy to program with external handset OK 41 / OK 41A
- Standard RS 232 interface for software upgrade
- * NTSC / SECAM on request

Number of SAT-IF inputs	6
Output frequency range	470-862 MHz
Gain	24 dB
Output level	(6 ch. / 60 dB IMR) 90-100 dB μ V
General data	
Power supply	230VAC, 50/60 Hz
LNB power max.	14 VDC / 600 mA
Power consumption	< 55 W
Operating temperature	0°C...+55°C
Storage temperature	-25°C...+75°C
Dimensions	320x300x102mm
Connectors	
RF in and outputs	F-type
Handset OK 41 / OK 41A	RJ 10
Upgrade / Remote control	DSUB 9 (male)
Processor modules available	
OM 10	Stereo AV modulator
OM 11	DVB-T to TS (FE)
OM 14	TS to PAL* (FTA)
OM 15	TS to PAL* with CI
OM 16	DVB-S to PAL* (FE), (FTA)
OM 17	DVB-S to PAL* with CI
Legend	
TS = Transport Stream	
FE = Front End	
FTA = Free To Air	
CI = Common Interface	
EMC	CE, Class A



MINI HEADEND modules DVB-S

OM 16



DVB-S to PAL Channel processing module

- Channel processing of DVB-S signals "Free TO Air" into an analog UHF-TV channel
- Transport stream output to connect Transport stream channel processing modules

Input frequency range	950-2150 MHz
Tuning steps	1 MHz
Input level	47-70 dB μ V
Modulation type	QPSK
Symbol rate	1-45 MS/s
Filtering	Nyquist $\sqrt{\cos}$
Roll-off factor	35 %
FEC inner code	1/2, 2/3, 3/4, 5/6, 7/8
Spectral inversion	C/KU band
Interleaving	Conv., I=12
FEC outer code	RS (204; 188,8)
Transport stream output	parallel
Video decoder	ISO 13818-2 MPEG2 (MP@ML) 1.5 Mbit/s-15 Mbit/s
Format	4:3 / 16:9
Video format	PAL NTSC SECAM on request!
Audio decoder	ISO 13818-3 MPEG 2 (L1/2)
Audio language	ISO 639
Audio format	mono/stereo sum, auto, manual
Output frequency	470-862 MHz
Tuning steps	250 kHz
Modulation	Double sideband
Output level	80 dB μ V
TV standard	B/G, D/K, I, L, M
Test pattern generator	b/w and color
RF connectors	F-type
Power consumption	< 4 W
Operating temperature	0°C...+55°C
Storage temperature	-25°C...+75°C
EMC	CE, Class A



MINI HEADEND modules DVB-S

OM 17



DVB-S to PAL channel processing module with Common Interface

- Channel processing of encrypted DVB-S signals into an analog UHF TV channel
- Transport stream output to connect Transport stream channel processing modules with Common Interface (CI)

Input frequency range	950-2150 MHz
Tuning steps	1 MHz
Input level	47-70 dB μ V
Modulation type	QPSK
Symbol rate	1-45 MS/s
Filtering	Nyquist $\sqrt{\cos}$
Roll-off factor	35%
FEC inner code	1/2, 2/3, 3/4, 5/6, 7/8
Spectral inversion	C/KU-Band
Interleaving	Conv, I=12
FEC outer code	RS (204; 188,8)
Transport stream output	Parallel
Video decoder	ISO 13818-2
	MPEG-2 (MP@ML)
	1.5 Mbit/s - 15 Mbit/s
Format	4:3 / 16:9
Video format	PAL NTSC, SECAM on request!
Audio decoder	ISO 13818-3 MPEG-2 (L1/2)
Audio language	ISO 639
Audio format	mono/stereo (sum) /auto, manual
Output frequency	470-862 MHz
Tuning steps	250 kHz
Modulation	Double side band
Output level	80 dB μ V
TV standard	B/G, D/K, I, L, M
Test pattern generator	s/w and colour
RF connectors	F-type
Power consumption	< 4 W
Operating temperature	0°C...+55°C
Storage temperature	-25°C...+75°C
EMC	CE, Class A



COMPACT HEADEND

OK 40 A



Basic unit

Compact channel processing featuring digital and analogue channel processing. 8 digital modules or 8 analogue twin modules can be mounted to supply satellite channels to the in-house distribution.

- Analogue and digital SAT processing
- Slots for up to 8 Modules / 16 channels
- Additional IF inputs for slot 1
- Modem interface
- Wall mount or 19" rack mounting
- Extendable with OK40 and OK40A

Splitter

Input impedance			75 Ω
Inputs			5x F-type
Frequency range			920-2150 MHz
Input level			70-90 dBμV
Thru loss	SAT-IF-input - output module	21 dB ±2	
Return loss	SAT-IF input	10 dB typ.	
LNC remote voltage	SAT1 + SAT3	13/18 VDC	
LNC remote voltage	SAT2 + SAT4	13 VDC	
LNC current			0.6 A
Output amplifier			
Frequency range			45-862 MHz
Impedance			75 Ω
Gain			6-8 dB
Output level	8ch load / 60 dB IMR	103 dBμV	
Output level	16ch load / 60 dB IMR	100 dBμV	
Return loss	Input	≥16 dB	
Return loss	Output	≥16 dB (-1,5 dB/Oct.)	
Power supply			
Operating voltage			180-265 VAC
Operating voltage	(via jumper)	90-130 VAC	
Max. output current	5.5 VDC 7.45 A	12.5 VDC 7.25 A	18.5 VDC 0.6 A
Mains frequency			47-63 Hz
Dimensions	W x H x D	442x270x265 mm	
Packing unit	1 piece	55 dm ³ , 9.2 kg	
Operating temperature			-5°C...+55°C
Storage temperature			-25°C...+75°C
Max. humidity, non condensing			95%
EMC			CE, Class A



COMPACT HEADEND modules analogue TV

OK 34 A



Stereo Dual AV-Modulator

- Modulation of video- and audio signals into the frequency range of 45-862 MHz
- Adjacent channel capable
- Separately settings of channel A and B

Input video

Input impedance		75 Ω
Video level		1 V _{ss}
Tuning steps	1 dB step size	-6 dB...+6 dB
Video bandwidth		20 Hz-5 MHz
S/N (CCIR 405-1)		> 53 dB, typ. 56 dB

Input audio

Input impedance	(via jumper)	600 Ω / 10 k Ω
Audio level		500 mV _{eff}
Tuning steps	3 dB step size	-6 dB...+6 dB
Frequency range		40 Hz-15 kHz
Audio inputs		2 x L/R cinch

Modulator

Output frequency range		45-862 MHz
Output level	adjustable via 10 dB attenuator	88-98 dB μ V
TV standard	*Stereo	PAL B/G*, D/K*, M/N, I, L
Channel offset A-B	1 MHz step size	6-16 MHz

General data

Connectors	Video	BNC
	Audio	Cinch
Operating temperature		0°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
EMC		CE, Class A

Notes

COMPACT HEADEND modules analogue FM

OK 22



FM Amplifier 87.5-108 MHz CCIR

- Feed in of local FM programmes into a CATV system
- 6 separate traps to attenuate local carriers
- All settings with handset OK 41 / OK 41A

Input impedance	75 Ω
Input/output frequency range	87.5-108 MHz
Noise figure	≤ 6 dB
Gain	low gain >20 dB high gain >38 dB
Attenuator range	0-18 dB
Output level (60 dB IMA)	>108 dB μ V
General data	
RF connectors	F-type
Power supply	12V / 5V
Power consumption	2 W
Operating temperature	0°C...+55°C
Storage temperature	-25°C...+75°C
Max. humidity, non condensing	95%
EMC	CE, Class A

OK 22 6673



FM Amplifier 66-73 MHz OIRT

- Feed in of local FM programmes into a CATV system
- All settings with handset OK 41 / OK 41A

Input impedance	75 Ω
Input/output frequency range	66-73 MHz
Noise figure	≤ 6 dB
Gain	low gain >20 dB high gain >38 dB
Attenuator range	0-18 dB
Output level (60 dB IMA)	>108 dB μ V
General data	
RF connectors	F-type
Power supply	12V / 5V
Power consumption	2 W
Operating temperature	0°C...+55°C
Storage temperature	-25°C...+75°C
EMC	CE, Class A

COMPACT HEADEND modules analogue FM

OK 42



Quad FM channel converter

- Conversion of four analog FM channels into any output channel
- AGC to control input level deviation of 50-90 dB μ V
- Frequency range 108-110 MHz for unused channel converters

Input frequency range	50 kHz steps size	87.5-108 MHz
Input level		50-90 dB μ V
Output frequency range	50 kHz steps size	87.5-110 MHz
Output level adjustable		80-90 dB μ V
Frequency response		typ. 5 kHz max. 12 kHz
Harmonic distortion		typ. 0.4 max. 0.8%
General data		
RF connectors		F-type
Power supply		12V / 5V
Operating temperature		0°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
EMC		CE, Class A

COMPACT HEADEND modules digital TV

OK 45 A



Dual TV channel converter

- Conversion and amplification of two analog/digital TV channels
- Adjacent channel capable at input and output
- Output level AGC

Frequency range	250 kHz step analog	500 kHz step digital	47-862 MHz
Input offset digital			\pm 166 kHz
TV standard			B/G, D/K, I, L
Input level			50-85 dB μ V
IF bandwidth	switchable		7 / 8 MHz
Output frequency range	250 kHz step analog	500 kHz step digital	47-862 MHz
Output level			103/93 dB μ V analog/digital
Output level with AGC			97/87 dB μ V analog/digital
General data			
Connectors			F-type
Operating temperature			0°C...+55°C
Storage temperature			-25°C...+75°C
Max. humidity, non condensing			95%
EMC			CE, Class A



COMPACT HEADEND modules digital TV

OK 75



DVB/QPSK - QAM Dual Transmodulator

- Reception of two QPSK-SAT signals and transmodulation into two digital QAM-TV-channels
- Integrated stuffing
- All settings via handset OK 41 / OK 41A

SAT input

Frequency range	950-2150 MHz	
Level	47-70 dB μ V	
AFC	\pm 5 MHz	
Type of modulation	QPSK	
Symbol rate	2-45 MS/s	
Filtering/Roll-off	Nyquist $\sqrt{\cos/35}$ %	
FEC inner code	Conv., K = 7, R = 1/2, 2/3, 3/4, 5/6, 7/8	
FEC outer code	Reed Solomon (204, 188.8)	
Interleaving	Conv., I = 12	
Spectral inversion	C- / KU-Band	
Output		
Frequency range	45-862 MHz	
Offset	1 MHz step size	6-16 MHz
Output level	1dB step size	78-88 dB μ V
Output level stability	\pm 1 dB	
Return loss	\geq 14 dB	
Type of modulation	4-, 16-, 32-, 64-, 128-, 256-QAM	
Symbol rate	3.45-7.0 Mbaud	
Stuffing factor	max. 2	
Filtering/Roll-off	Nyquist $\sqrt{\cos/15}$ %	
Interleaving	Conv., I = 12	
FEC outer code	Reed Solomon (204, 188,8)	
General data		
Connectors	F-type	
Power supply	12V / 5V	
Operating temperature	0°C...+55°C	
Storage temperature	-25°C...+75°C	
Max. humidity, non condensing	95%	
EMC	CE, Class A	



COMPACT HEADEND modules digital TV

OK 75 A



DVB/QPSK - QAM Dual Transmodulator

- Reception of two QPSK-SAT signals and transmodulation into two digital QAM-TV-channels
- Stuffing with PCR correction
- PID filtering
- Network information table processing (NIT) with CS 75 software and interface cable
- All settings via handset OK 41 / OK 41A

SAT input

Frequency range	950-2150 MHz	
Level	47-70 dB μ V	
AFC	\pm 5 MHz	
Type of modulation	QPSK	
Symbol rate	2-45 MS/s	
Filtering/Roll-off	Nyquist $\sqrt{\cos/35}$ %	
FEC inner code	Conv., K = 7, R = 1/2, 2/3, 3/4, 5/6, 7/8	
FEC outer code	Reed Solomon (204, 188.8)	
Interleaving	Conv., I = 12	
Output		
Frequency range	45-862 MHz	
Offset	1 MHz step size	6-16 MHz
Output level	1dB step size	78-88 dB μ V
Output level stability	\pm 1 dB	
Return loss	\geq 14 dB	
Type of modulation	4-, 16-, 32-, 64-, 128-, 256-QAM	
Symbol rate	3.45-7.0 Mbaud	
Stuffing Faktor	max. 2	
Filtering/Roll-off	Nyquist $\sqrt{\cos/15}$ %	
Interleaving	Conv., I = 12	
FEC outer code	Reed Solomon (204, 188.8)	
PID filter	2 x 10	
General data		
Connectors	F-type	
Power supply	12V / 5V	
Operating temperature	0°C...+55°C	
Storage temperature	-25°C...+75°C	
Max. humidity, non condensing	95%	
EMC	CE, Class A	



COMPACT HEADEND modules digital TV

OK 76



Digital SAT-Receiver - QPSK/PAL, Free To Air

- Reception of a QPSK signal and processing in an analogue TV channel
- Demultiplexing and decoding of MPEG 2 signals
- Insertion of subtitles (teletext)
- All settings via OK 41 / OK 41 A handset

Input

Frequency range	950-2150 MHz	
Level	47-70 dB μ V	
AFC	\pm 5 MHz	
Type of modulation	QPSK	
Symbol rate	2-45 MS/s	
Filtering/Roll-off	Nyquist $\sqrt{\cos/35}$ %	
FEC inner code	Conv., K = 7, R = 1/2, 2/3, 3/4, 5/6, 7/8	
FEC outer code	Reed Solomon (204, 188,8)	
Interleaving	Conv., I = 12	
Spectral inversion	C-Band / KU-Band	
Video decoder	ISO 13818-2	MPEG 2 (MP@ML)
Video format	4:3 / 16:9	
Video standard (switchable)	PAL/SECAM/ NTSC-M	
Video level	1 Vpp/75 ohms	
Audio decoder	ISO 13818-3	MPEG (L1/L2)
Audio format	Mono/Stereo/ 2nd sc	
Output		
Frequency range	45-862 MHz	
Level	88-98 dB μ V	
TV standard	B/G, D/K, I, L, M	
General data		
Connectors	F-type	
Power supply	12V / 5V	
Operating temperature	0°C...+55°C	
Storage temperature	-25°C...+75°C	
Max. humidity, non condensing	95%	
Packing unit	1 piece	3.9 dm ³
Shipping package	5 pieces	22 dm ³ , 3.1 kg
EMC	CE, Class A	



COMPACT HEADEND modules digital TV

OK 77



Digital SAT-Receiver - QPSK/PAL, Common Interface

- Reception of a QPSK signal and processing in an analogue TV channel
- Demultiplexing and decoding of MPEG 2 signals
- Insertion of subtitles (teletext)
- Common interface
- All settings via OK 41 / OK 41 A handset

Input

Frequency range	950-2150 MHz	
Level	47-70 dB μ V	
AFC	\pm 5 MHz	
Type of modulation	QPSK	
Symbol rate	2-45 MS/s	
Filtering/Roll-off	Nyquist $\sqrt{\cos/35}$ %	
FEC inner code	Conv., K = 7, R = 1/2, 2/3, 3/4, 5/6, 7/8	
FEC outer code	Reed Solomon (204, 188,8)	
Interleaving	Conv., I = 12	
Spectral inversion	C- / KU-Band	
Video decoder	ISO 13818-2	MPEG 2 (MP@ML)
Video format	4:3/16:9	
Video norm (switchable)	PAL/SECAM/ NTSC-M	
Video level	1 Vpp/75 ohms	
Audio decoder	ISO 13818-2	MPEG (L1/L2)
Audio format	Mono/Stereo/ 2nd sc	
Common Interface	DVB conform (EN 50221)	
Output		
Frequency range	45-862 MHz	
Level	88-98 dB μ V	
TV standard	B/G, D/K, I, L, M	
General data		
Connectors	F-type	
Power supply	12V / 5V	
Operating temperature	0°C...+55°C	
Storage temperature	-25°C...+75°C	
Max. humidity, non condensing	95%	
Packing unit	1 piece	3.9 dm ³
Shipping package	5 pieces	22 dm ³ , 3.1 kg
EMC	CE, Class A	



COMPACT HEADEND modules digital TV

OK 79 T



DVB-T channel processor

- Reception of a DVB-T signal and processing into an analogue TV channel
- Demultiplexing and decoding of MPEG 2 signals
- Insertion of teletext, VPS, WSS
- Decoder socket
- All settings via OK 41 / OK 41A handset

Input

Frequency range	49-862 MHz
Tuning steps	500 kHz
Level	24-89 dB μ V
	QAM 64 7/8 40 dB μ V
	QPSK 24 dB μ V
OFDM-Spektrum (autom)	2k and 8k
Typ of modulation	QPSK, 16, 64 QAM
Protection interval	1/32, 1/16, 1/8, 1/4 (autom)
FEC inner code	1/2, 2/3, 3/4, 5/6, 7/8 (autom)
Channel bandwidth	6, 7, 8 MHz
Video decoder	ISO 13818-2 (MP@ML)
Video format	4:3 / 16:9
Video level	1 Vpp / 75 ohms
Audio decoder	ISO 13818-3 MPEG (L1/L2)
Audio format	Mono / Stereo / 2nd sc
Output	
Frequency range	45-862 MHz
Tuning steps	250 kHz
Level	88-98 dB μ V
TV standard	B/G, D/K, I, L, M
General data	
Connectors	F-type
Power supply	12V / 5V
Operating temperature	0°C...+55°C
Storage temperature	-25°C...+75°C
Max. humidity, non condensing	95%
EMC	CE, Class A

COMPACT HEADEND modules digital FM

OK 72



DUAL SAT QPSK to FM converter Free To Air

- Processing of two Sat radio channels into 2 FM radio channels
- Insertion of RDS station name
- Decoder interface
- All settings via OK41 / 41A handset

Sat input

Input impedance	75 ohms	
Input frequency range	950-2150 MHz	
IF bandwidth	non (Zero IF)	
Input level	47-70 dB μ V	
AFC	\pm 5 MHz	
Type of modulation	QPSK	
Symbol rate	2-45 MS/s	
Filtering/Roll-off	Nyquist / cos/35 %	
FEC inner code	Conv., K=7, R=1/2,2/3,3/4,5/6,7/8	
FEC outer code	RS (204,188,8)	
Interleaving	Conv., I=12	
Spectral inversion	C- / Ku-Band	
Audio parameters		
Frequency response	\pm 2,0 dB	
Non linear distortions 60 Hz-3 kHz	\geq 43 dB	
FM output		
Output frequency range	50 kHz step size	87.5-108 MHz
Output impedance	75 ohms	
Output level	90 dB μ V	
Spurious suppression	>60 dB (compared to TV signals)	
Crosstalk attenuation	>40 dB	
Distorsion	\leq 1 %	
S/N signal to noise ratio	>56 dB	
General data		
Connectors	F-type	
Power supply	12V / 5V	
Operating temperature	0°C ... +55 °C	
Storage temperature	-25°C ... +75°C	
Max. humidity, non condensing	95%	
EMC	CE, Class A	



Accessories COMPACT HEADEND

CS 75

WISI NIT Generator Interface

included in the set
- NIT Generator software
- Cable

OK 41 A



Handset

with memory, lightning display and LED torch

Packing unit	1 piece, 1.25 dm ³
Shipping package	10 pieces, 15 dm ³ , ca. 1kg

OK 48



Decoder interface module

Optional for OK 44 A

Packing unit	1 piece, 1,25 dm ³
Shipping package	10 pieces, 15 dm ³ , ca. 1 kg

OK 52

WISI COMPACT HEADEND remote Interface

included in the set
- WISI HEADEND COMMANDER software
- Interconnection cable PC--Headend
The WISI OK 52 HEADEND COMMANDER enables operators to configure and survey the WISI COMPACT HEADEND from a remote location. It offers a self-explanatory graphical user interface in English and German language. The system provides great ease of maintenance for operators of networks or stations at any remote location.
OK 52 also opens the door to service contracts with hotels and large housing complexes.

TOPLINE HEADEND

OV 50 A



TOPLINE HEADEND Basic unit with power supply module

Modular universal system to satisfy all requirements of high-quality channel processing - from the CATV headend to the community antenna TV system.

Whether it's satellite or terrestrially broadcast programmes - the WISI TOPLINE HEADEND will feed them into your distribution system - in brilliant quality.

- Basic unit with GaAs-high-output broadband amplifier.
- Modular system concept; up to 10 modules per basic unit.
- Easy configuration and expansion.
- Tunable module features individual microprocessor control, through ISA-technology (Integrated Stand Alone).
- Simple programming of the individual modules.
- High output level.
- Output frequency fully tunable in FM/VHF/UHF range through FFC-technology (Free Frequency Choice).
- TV standards: B/G, D/K, I, L, M, N.
- Adjacent-channel operation through SAW filter and vestigial sideband modulation.
- NMS via Headend controller OV 51S or remote interface OV 52

Power supply

Power supply	no-load, short-circuit and overload-protected		
Operating voltage	230 VAC / 50/60 Hz		
Max. output power	124 W		
DC operating voltages	5 VDC / 12 A	12 VDC / 7.0 A	13.5 VDC / 1.0 A
LED displays	5 / 12 / 13.5 VDC		
Output broadband amplifier			
2 RF inputs, loop-thru input, output, TP -20 dB	F-type		
Frequency range	45-862 MHz		
Gain	30 dB		
Adjustable attenuator	0-10 dB		
Output level at 60 dB IMA, 3 rd order	121 dBμV		
Output level at 60 dB IMA, 2 nd order	115 dBμV		
Test output	-20 dB		
Operating output level (10 modules)	45-862 MHz	110 dBμV	
6-way splitter, with DC-bypass	built in		
Thru loss	2x 9,5 dB	4x 13.2 dB	
Isolation	18 dB		
General data			
Frame housing, aluminium, painted grey	445x398x208 mm		
Operating temperature	-5°C...+55°C		
Storage temperature	-25°C...+75°C		
Max. humidity, non condensing	95%		
EMC	CE, Class A		
Weight	9 kg		
Packing unit	1 piece	133.5 dm ³ , 8.5 kg	



TOPLINE HEADEND modules analogue TV

OV 45 D



Terrestrial-TV multi-standard channel converter analog / digital

- Conversion of one analog/digital TV channel into the range of 45-862 MHz
- Suitable for DVB-T
- AGC of the input level range 50-90 dB μ V analog/ 40-80 dB μ V digital
- Output level adjustable in the range of 74-84 dB μ V analogue / 64-74 dB μ V digital
- High IF selection via two SAW filters, thereby adjacent channel operation at input and output.
- Deactivation of AGC for TV standard L. Manual gain adjustment
- NMS via Headend controller OV 51S or remote interface OV 52

Frequency range input / output DVB-T suitable		45-862 MHz
Tuning steps	PAL B/G, D/K, I, L	0.25 MHz
	DVB-T 7 MHz	0.5 MHz \pm 125 kHz Offset
	DVB-T 8 MHz / DVB-8S	only input or output 0.5 MHz \pm 166.6 kHz Offset
	DVB-C 7 MHz	0.5 MHz
	DVB-C 8 MHz / DVB-C8S	0.5 MHz
Input level range	PAL B/G, D/K, I, L	50-90 dB μ V
	DVB-T, DVB-C	40-80 dB μ V
TV standards	analog	PAL B/G, D/K, I, L
	digital terrestrial	DVB-T 7 MHz, DVB-T 8 MHz
	digital cable	DVB-C 7 MHz, DVB-C 8 MHz
Noise factor		\leq 9 dB
AGC range		\geq 40 dB
Spurious signal supression at input		acc. to EN 50083-2
Output level (AGC on)	analog	84 dB μ V
	DVB-T, DVB-C	74 dB μ V
Multi-standard	PAL B/G, D/K, I, L	
	DVB-C	16 QAM, 64 QAM (7/8 MHz-bandwidth)
	DVB-T	2k, 8k mode, Coderate 2/3 (7/8-MHz bandwidth)
General data		
Option: TV demodulator	OV 62 A OV 62 D	A= B/G D= D/K
Connectors	RF	F-type
	Audio/Video	Sub-D socket
Operating temperature		0°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
EMC		CE, Class A

TOPLINE HEADEND modules analogue TV

OV 55 A



SAT-TV channel processing mono

- Demodulation of a SAT- IF signal
- Modulation in one TV channel
- Adjacent channel capable vestigial sideband modulator
- Demodulator with noise-suppression system (Wegener comp.)
- Multi-standard operation
- Loop and single output switchable
- Integrated test pattern generator
- Prepared for installation of video generator OV 61A
- NMS via Headend controller OV 51S or remote interface OV 52

SAT

Input frequency	920-2150 MHz	
Tuning steps	1 MHz	
Input level	45-75 dB μ V	
IF bandwidth	27 MHz	
Video		
Video bandwidth	20 Hz-5.0 MHz	
Video output	Decoder socket	1 Vpp/ \pm 3 dB
Video deemphasis	625 lines	
Audio		
Main sound carrier	tunable	5-9 MHz
Bandwidth	Main sound carrier	110 kHz
	Sound sub carrier	280 kHz
De-emphasis	Main sound carrier	50 μ , 75 μ , J 17
	Sound sub carrier	adaptive
Deviation adjustment	+6 dB...-9 dB	
Modulator		
Output frequency	45-862 MHz	
Tuning steps	250 kHz	
Output level	Loop through	75-85 dB μ V
	Single	85-95 dB μ V
TV standard	B/G, D/K, M/N, I, L	
General data		
Option: Video generator	OV 61 A	Assembly in factory only!
Connectors	RF	F-type
Decoder	SUB-D	
Operating temperature	-5°C...+55°C	
Storage temperature	-25°C...+75°C	
Max. humidity, non condensing	95%	
EMC	CE, Class A	



TOPLINE HEADEND modules analogue TV

OV 85 A



SAT-TV channel processing STEREO

- Demodulation of a SAT- IF signal
- Modulation in one TV channel
- Adjacent channel capable vestigial sideband modulator
- Demodulator with noise-suppression system (Wegener compatible)
- Multi-standard operation
- Loop and single output switchable
- Integrated test pattern generator
- Prepared for installation of Video generator OV 61A
- NMS via Headend controller OV 515 or remote interface OV 52

SAT

Input frequency	920-2150 MHz
Tuning steps	1 MHz
Input level	45-75 dB μ V
IF bandwidth	27 MHz

Video

Video bandwidth	20 Hz-5.0 MHz	
Output level	Decoder socket	1 Vpp/ \pm 3 dB
Video de-emphasis	625 lines	

Audio

Main sound carrier	tunable	5-9 MHz
Bandwidth	Main sound carrier	110 kHz
	Sound sub carrier	280 kHz
De-emphasis	Main sound carrier	50 μ , 75 μ , J 17
	Sound sub carrier	adaptive
Deviation adjustment		+6 dB...-9 dB

Modulator

Output frequency	45-862 MHz	
Tuning steps	250 kHz	
Output level	Loop through	75-85 dB μ V
	Single	85-95 dB μ V
TV standard	*Stereo/Dual sound; sub carrier (2) with ID	B/G*, D/K*, M/N, I, L

General data

Option	OV 61 A video generator	Assembly in factory only!
Connectors	RF	F-type
Decoder		SUB-D
Operating temperature		-5°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
EMC		CE, Class A



TOPLINE HEADEND modules digital TV

OV 75



DVB / QAM - QPSK transmodulator

- Transmodulation of digital DVB/QPSK SAT IF signals
- Processing of symbol rates 2-45 MS/s
- NMS via Headend controller OV 51S or remote interface OV 52

SAT

Input frequency		950-2150 MHz
Tuning steps		1 MHz
Input level		47-70 dB μ V
Impedance		75 Ω
Type of modulation		QPSK
Symbol rate	adjustable	2-45 MS/s
Filtering		Nyquist $\sqrt{\cos}$
Internal error protection		Conv., K = 7, R = 1/2, 2/3, 3/4, 5/6, 7/8
Spectrum inversion		C-/Ku-Band
Interleaving		Conv., I = 12
FEC outer code		Reed Solomon (204, 188.8)
Output		
Frequency range		45-862 MHz
Tuning steps		250 kHz
Bandwidth		depending on QAM-symbol rate
Output level	for 16-, 32-, 64-, 128-, 256-QAM	74-84 dB μ V
Output impedance		75 ohms
Signal to spurious frequency ratio	45-862 MHz	\geq 45 dB
Type of modulation		for 16-, 32-, 64-, 128-, 256-QAM
Symbol rate		3.45-6.9 Mbaud
Filtering		Nyquist $\sqrt{\cos}$
Roll off		15 %
Interleaving		Conv., I = 12
FEC outer code		Reed Solomon (204, 188.8)
General data		
Connectors	RF	F-type
Operating temperature		-20°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
EMC		CE, Class A

TOPLINE HEADEND modules digital TV

OV 75 A



DVB / QPSK-QAM transmodulator with TS handling

- Identical with OV 75
- Stuffing with PCR correction
- PID filtering
- Network information table processing (NIT) with CS 75 software and interface
- NMS via Headend controller OV 51S or remote interface OV 52

SAT

Input frequency		950-2150 MHz
Tuning steps		1 MHz
Input level		44-84 dB μ V
Type of modulation		QPSK
Symbol rate	adjustable	2-45 MS/s
Internal error protection		Conv., K=7, R=1/2, 3/4, 5/6, 7/8
Spectrum inversion		C-/Ku-Band
Interleaving		Conv., I=12
FEC outer code		Reed Solomon (204, 188.8)
Output		
Frequency range		45-862 MHz
Symbol rate	version up to 7.5 MS/s on request	3.45-7.125 MS/s
Type of modulation		16-, 32-, 64-, 128-, 256-QAM
Output level for	loop	64-74 dB μ V
	single output	74-84 dB μ V
Stuffing		on / off
Output QAM rate		3.45-7.125 MS/s
NIT processing		with CS 75 software and interface cable (Accessories)
PID filter		10
General data		
Connectors	RF	F-type
Operating temperature		-20°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
EMC		CE, Class A



OV 75 C



DVB/QPSK-QAM transmodulator with ASI interface

- Identical with OV 75
- Additional ASI interface
- Common interface
- NMS via Headend controller OV 51S or remote interface OV 52

SAT

Input frequency		950-2150 MHz
Tuning steps		1 MHz
Input level		44-84 dB μ V
Type of modulation		QPSK
Symbol rate	adjustable	2-45 MS/s
Internal error protection		Conv., K=7, R=1/ 2/3, 3/4, 5/6, 7/8
Spectrum inversion		C-/Ku-Band
Interleaving		Conv., I=12
FEC outer code		Reed Solomon (204, 188.8)
Output		
Frequency range		45-862 MHz
Symbol rate	(special version up to 7.5 MS/s upon request)	3.45-7.125 MS/s
Type of modulation		16-, 32-, 64-, 128-, 256-QAM
Output level for	loop	64-74 dB μ V
	single	74-84 dB μ V
ASI out	Format	204 Byte/ Burst Mode
ASI in	Format	Burst 188/204 Byte - Packet 204 Byte
Output data rate		2-45 MS/s
Input data rate		10-53.95 Mbit/s
General data		
Connectors	ASI	BNC
Connectors	RF	F-type
Operating temperature		-20°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
EMC		CE, Class A



TOPLINE HEADEND modules digital TV

OV 75 D



DVB/QPSK-QAM transmodulator with TS handling + ASI interface

- Transmodulation of digital DVB/QPSK SAT IF signals
- Processing of symbol rates of 2-45 MS/s
- Operation ID 2 Byte
- PID filtering
- NMS via Headend controller OV 51S or remote interface OV 52

SAT

Input frequency		950-2150 MHz
Tuning steps		1 MHz
Input level		44-84 dB μ V
Type of modulation		QPSK
Symbol rate	adjustable	2-45 MS/s
Internal error protection		Conv., K=7, R=1/ 2/3, 3/4, 5/6, 7/8
Spectrum inversion		C-/Ku-Band
Interleaving		Conv., I=12
FEC outer code		Reed Solomon (204, 188,8)

Output

Frequency range		45-862 MHz
Symbol rate	version up to 7.5 MS/s on request	3,45-7,125 MS/s*
Type of modulation		16-, 32-, 64-, 128-, 256-QAM
Output level for	loop	64-74 dB μ V
	single output	74-84 dB μ V

Additional specifications

Stuffing		on/off
Output QAM rate		3,45-7,125 MS/s
PID-filter		10
NIT processing		with CS 75 software and interface cable (Accessories)
ASI out	Format	204 Byte Burst Mode
ASI in	Format	Burst 188/204 Byte/Package 204 Byte
Output data rate		2-45 MS/s
Input data rate		10-53,95 Mbit/s
General data		
Connectors	ASI	BNC
Connectors	RF	F-type
Operating temperature		-20°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
EMC		CE, Class A



OV 76



Digital SAT processor - QPSK / PAL, FTA, Mono

- Reception of a QPSK satellite signal and processing into a PAL / SECAM / NTSC-M - TV channel
- Demultiplexing and decoding of MPEG-2 signals
- Insertion of Teletext data
- NMS via Headend controller OV 51S or remote interface OV 52

SAT

Input frequency		950-2150 MHz
Tuning steps		1 MHz
Input level		47-70 dB μ V
AFC		\pm 5 MHz
Type of modulation		QPSK
Symbol rate	adjustable	2-45 MS/s
FEC inner code		Conv., K=7, R=1/2, 2/3, 3/4, 4/5, 5/6, 7/8, 8/9
Spectrum inversion		C-/Ku-Band
Video decoder		ISO 13818-2
		MPEG 2 (MP@ML)
Video format		4:3, 16:9
Video standard	selectable	PAL/SECAM/NTSC-M
Audio decoder		ISO 13818-3
Output		
Frequency		45-862 MHz
Tuning steps		250 kHz
Channel bandwidth	selectable	7/8 MHz
Output level	loop	74-84 dB μ V
	single	84-94 dB μ V
Spurious emission	within AM TV channels	>60 dB
	outside of TV channels	>60 dB
Differential gain		<5 %
Differential phase		<5 °
Group delay	(-0.5 .. 4.43 MHz)	<80 ns
S/N Video	(CCIR-rec. 567-1)	typ. 56 dB
S/N Audio	with color test pattern	typ. 50 dB
Distortion		1 %
General data		
Connectors	RF	F-type
Operating temperature		-20°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
EMC		CE, Class A

TOPLINE HEADEND modules digital TV

OV 76 S



Digital SAT processor - QPSK / PAL, FTA, Stereo

- Reception of a QPSK satellite signal and processing into an PAL / SECAM / NTSC-M - TV channel
- Demultiplexing and decoding of MPEG-2 signals
- Insertion of Teletext data
- NMS via Headend controller OV 51S or remote interface OV 52

SAT

Input frequency		950-2150 MHz
Tuning steps		1 MHz
Input level		47-70 dB μ V
AFC		\pm 5 MHz
Type of modulation		QPSK
Symbol rate	adjustable	2-45 Ms/s
FEC inner code		Conv., K=7, R=1/2, 2/3, 3/4, 4/5, 5/6, 7/8, 8/9
Spectrum inversion		C-Band/Ku-Band
Video decoder		ISO 13818-2
		MPEG 2 (MP@ML)
Video format		4:3, 16:9
Video standard	selectable	PAL/SECAM/ NTSC-M
Audio decoder	MPEG (L1/L2)	ISO 13818-3
Output		
Frequency		45-862 MHz
Tuning steps		250 kHz
Frequency stability		\pm 30 kHz
Channel bandwidth	selectable	7/8 MHz
Output level	loop	74-84 dB μ V
	single	84-94 dB μ V
Spurious emission	within AM TV channels	>60 dB
	outside of TV channels	>60 dB
Differential gain		<5 %
Differential phase		<5 °
Group delay	(-0.5 .. 4.43 MHz)	<80 ns
S/N Video	(CCIR-rec. 567-1)	typ. 56 dB
S/N Audio	with color test pattern	typ. 50 dB
Distorsion		1 %
General data		
Connectors	RF	F-type
Operating temperature		-20°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
EMC		CE, Class A



OV 77



Digital SAT processor - QPSK / PAL, CI, Mono

- Reception of a QPSK satellite signal and processing into an PAL / SECAM / NTSC-M - TV channel
- Demultiplexing and decoding of MPEG-2 signals
- Insertion of Teletext data
- NMS via Headend controller OV 51S or remote interface OV 52

SAT

Input frequency		950-2150 MHz
Tuning steps		1 MHz
Input level		47-70 dB μ V
AFC		\pm 5 MHz
Type of modulation		QPSK
Symbol rate	adjustable	2-45 MS/s
FEC inner code		Conv., K=7, R=1/2, 2/3, 3/4, 4/5, 5/6, 7/8, 8/9
Spectrum inversion		C-/Ku-Band
Video decoder	MPEG 2 (MP@ML)	ISO 13818-2
Video format		4:3, 16:9
Video standard	selectable	PAL/SECAM/ NTSC-M
Audio decoder		ISO 13818-3
Output		
Frequency		45-862 MHz
Tuning steps		250 kHz
Frequency stability		\pm 30 kHz
Channel bandwidth	selectable	7/8 MHz
Output level	loop	74-84 dB μ V
	single	84-94 dB μ V
Spurious emission	within AM TV channels	>60 dB
	outside of TV channels	>60 dB
Differential gain		<5 %
Differential phase		<5 °
Group delay	(-0,5 .. 4.43 MHz)	<80 ns
S/N Video	(CCIR-rec. 567-1)	typ. 56 dB
S/N Audio	with color test pattern	typ. 50 dB
Distorsion		1 %
General data		
Connectors	RF	F-type
Operating temperature		-20°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
Common Interface		acc. to DVB (EN 50221)
EMC		CE, Class A

TOPLINE HEADEND modules digital TV

OV 77 S



Digital SAT processor QPSK / PAL, CI, Stereo

- Reception of a QPSK satellite signal and processing into an PAL / SECAM / NTSC-M - TV channel
- Demultiplexing and decoding of MPEG-2 signals
- Insertion of Teletext data
- NMS via Headend controller OV 51S or remote interface OV 52

SAT

Input frequency		950-2150 MHz
Tuning steps		1 MHz
Input level		47-70 dB μ V
AFC		\pm 5 MHz
Type of modulation		QPSK
Symbol rate	adjustable	2-45 MS/s
FEC inner code		Conv., K=7, R=1/2, 2/3, 3/4, 4/5, 5/6, 7/8, 8/9
Spectrum inversion		C-/Ku-Band
Video decoder		ISO 13818-2
		MPEG 2 (MP@ML)
Video format		4:3, 16:9
Video standard	selectable	PAL/SECAM/NTSC-M
Audio decoder	MPEG (L1/L2)	ISO 13818-3
Output		
Frequency range		45-862 MHz
Tuning steps		250 kHz
Frequency stability		\pm 30 kHz
Channel bandwidth	selectable	7/8 MHz
Output level	loop	74-84 dB μ V
	single	84-94 dB μ V
Spur emission	within AM TV channels	>60 dB
	outside of TV channels	>60 dB
Differential gain		<5 %
Differential phase		<5 °
Group delay	(-0,5 .. 4,43 MHz)	<80 ns
S/N Video	(CCIR-rec. 567-1)	typ. 56 dB
S/N Audio	with color test pattern	typ. 50 dB
Distorsion		1 %
General data		
Connectors	RF	F-type
Operating temperature		-20°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
Common Interface		acc. to DVB (EN 50221)
EMC		CE, Class A



OV 79



Terrestrial DVB-FTA processor mono

- Reception of a DVB-T signal and processing into an TV channel
- Input frequency 49-862 MHz
- Demultiplexing and decoding of MPEG-2 signals
- Insertion of Teletext / VPS / WSS datas into the blanking impuls
- NMS via Headend controller OV 515 or remote interface OV 52

Input

Input frequency		49-862 MHz
Tuning steps		500 kHz
Input return loss		> 8 dB
Input level		24-89 dB μ V
	QAM 64 7/8	40 dB μ V
	QPSK 1/2	24 dB μ V
OFDM spectrum		2k and 8k (autom.)
Type of modulation		QPSK, 16 QAM, 64 QAM
Protection interval		1/32, 1/16, 1/8, 1/4, (autom.)
FEC		1/2, 2/3, 3/4, 5/6, 7/8, (autom.)
Channel bandwidth	selectable	6, 7, 8 MHz
MPEG-Decoder		
Video decoder		ISO 13818-2 MPEG 2 (MP@ML)
Video format	selectable	4:3 / 16:9
Video standard	selectable	PAL / SECAM / NTSC-M
Audio decoder		ISO 13818-3 MPEG 2 (L1/2)
Audio format		Mono
Audio format switchover		Manual / autom.
Output		
Output frequency		45-862 MHz
Tuning steps		250 kHz
Output channel bandwidth		7 / 8 MHz
Output level	loop	74-84 dB μ V
	single	84-94 dB μ V
Output return loss		\geq 14 dB
TV standards		B/G, D/K, I, L, M
General data		
Connectors		F-type
Operating temperature		-20°C...+55°C
Storage temperature		-25°C...+75°C
Max. humidity, non condensing		95%
EMC		CE, Class A

TOPLINE HEADEND modules digital TV

OV 79 S



Terrestrial DVB-FTA receiver stereo

- Reception of a DVB-T signal and processing into an TV channel
- Input frequency 49-862 MHz
- Demultiplexing and decoding of MPEG-2 signals
- Insertion of Teletext / VPS / WSS datas into the blanking impuls
- NMS via Headend controller OV 515 or remote interface OV 52

Input

Input frequency	49-862 MHz
Tuning steps	500 kHz
Input return loss	> 8 dB
Input level	24-89 dBμV
	QAM 64 7/8 40 dBμV
	QPSK 1/2 24 dBμV

OFDM spectrum

Type of modulation	QPSK, 16 QAM, 64 QAM
Protection interval	1/32, 1/16, 1/8, 1/4, (autom.)
FEC	1/2, 2/3, 3/4, 5/6, 7/8, (autom.)
Channel bandwidth	6, 7, 8 MHz

MPEG-Decoder

Video decoder	ISO 13818-2 MPEG 2 (MP@ML)
Video format	4:3 / 16:9
Video standard	PAL / SECAM / NTSC-M
Audio decoder	ISO 13818-3 MPEG 2 (L1/2)
Audio format	Mono / Stereo / Dual sound
Audio format switchover	Manual / autom.

Output

Output frequency	45-862 MHz
Tuning steps	250 kHz
Output channel bandwidth	7 / 8 MHz
Output level	loop 74-84 dBμV
	single 84-94 dBμV

Output return loss	≥ 14 dB
---------------------------	---------

TV standards	B/G, D/K, I, L, M
---------------------	-------------------

General data

Connectors	F-type
Operating temperature	-20°C...+55°C
Storage temperature	-25°C...+75°C
Max. humidity, non condensing	95%
EMC	CE, Class A



Accessories TOPLINE HEADEND

CS 53

WISI HEADEND Commander Software

included in set:
- PC software WISI HEADEND Commander

CS 75

WISI NIT Generator Interface

included in set:
- NIT Generator Software
- Cable

CS 76

WISI SI Tabellen Editor Interface

included in set:
- WISI SI Table Editor
- Cable

CS 77

WISI SI Tabellen Editor

included in set:
- WISI SI Table Editor

OV 51 S



HEADEND Controller

- NMS module with SNMP protocol for WISI TOPLINE HEADEND
- Proxy for connection of TOPLINE HEADEND ((RS-485, OV 50 A Remote Interface)) to NMS systems (Ethernet, UDP/IP, SNMP)
- Protocol SNMPv2
- Configuration of module parameters
- Fault management, reporting of alarms and configuration changes via traps.
- Supports up to 10 OV-, LR- or LT modules

Hardware

- RS 232 interface ((DSUB9 - 19.200 bps)
- RS 485 interface to OV-module bus ((9.600 bps)
- 10/100 Mbit Ethernet interface to management system

Software

- Internet protocol acc. RFC 1700 (IP, and parts of TCP, UDP, ICMP)
- Setup via Telnet or RS2323 Terminal program
- Necessary RFC-MIBs (ex. MIB II)
- WISI HEADEND-MIB SCTE HMS inside plant MIBs

Up to 10 basic units OV 50 A can be controlled

Delivery as set consisting of Cable, adapter A-Sub - RJ 11

Accessories TOPLINE HEADEND

OV 52



Remote control interface WISI COMMANDER

- Control and configure up to 10 WISI TOPLINE HEADEND Systems
- RS 232 crossed serial cable for direct connection
- RS 485 interface to OV-module bus (9.600 bps)
- Code switch selection of 10 WISI COMPACT Headend modules
- Automatic disconnect (timeout) to prevent high phone bills
- Integrated phonebook
- Password protection
- Customizable user surface

Supports

- analogue and digital modems (Hayes)
- GSM mobile phones
- pulse and tone dialing
- direct RS 232 send connection

Delivery as set consisting of software (CD) plus hardware interface

OV 61 A

Video generator module

Factory assembly into eg. OV 36A or OV 85 B

The video generator module generates a PAL video signal in accordance with the standard. It is thus possible, for example, to transmit sound sub-carrier only..

It is possible to display the text "Radio". Four pages, each with 12 lines of 24 characters, can be stored.

Factory setting: Page 1 with text "Radio"

Page 2 blank

Contents of pages 3 and 4: Customer-specific text: on request.

The customer can switch between these four text pages with a jumper and can also select one of eight background colours.

Pages	4
Lines per page	12
Characters per line	24

OV 62 A

A/V Demodulator module standard B/G

The module is an accessory which can be mounted inside the OV 45A and OV 45D channel converters.

It demodulates RF signals of standard B/G to audio (mono) and video.

The A/V signal is available on the decoder socket on top of the OV 45A and D module. OV 62A can be installed by the customer.

OV 62 D

A/V Demodulator module standard D/K

The module is an accessory which can be mounted inside the OV 45A and OV 45D channel converters.

It demodulates RF signals of standard D/K to audio (mono) and video.

The A/V signal is available on the decoder socket on top of the OV 45A and D module. OV 62D can be installed by the customer.



