WISI COMPACT HEADEND
THE DIGITAL EVOLUTION
One platform for all applications

... modular design

... a link to the future

One platform - all applications

The new *WISI COMPACT* HEADEND - the digital evolution

The *WISI COMPACT* HEADEND represents the next generation in economical channel processing. This modern concept combines first-rate system performance with maximum flexibility. Due to the exceptional price and performance factors, it is a design that truly captivates. Furthermore, many of the techniques used are attributable to the larger scale technologies of the *WISI TOPLINE* HEADEND. The famous and highly awarded WISI Quality Management System is the foundation from which the reliability and long life characteristics of this system derive. Quite simply, quality made in Germany!

The *WISI COMPACT* HEADEND represents the ideal introduction to flexible signal processing for flats, small hotels, leisure complexes, etc. With the large variety of modules available, it allows the user to set up cost-effective headends for small community systems. Digital and analog components can operate simultaneously guaranteeing a system with a secure future. As with larger headends, an individual microprocessor is at the disposal of each headend module. This combination of a high level of operating safety together with the outstanding signal to noise performance sets this configuration at the top of the list when it comes to choosing a system for a large number of channels and many subscribers.

The high output level of the top quality output amplifier guarantees the necessary performance reserves. This also applies to larger systems. The input signal splitter features a 4x16 multiswitch supporting flexibility and simple installations.

The concept of *WISI COMPACT* HEADEND allows a trouble-free migration from the complete analog to complete digital within the system. The necessary power required for the digital conversion is already incorporated in the *WISI COMPACT* HEADEND power supply.
The specifically designed ventilation of each module guarantees operating stability and a long life.
WISI COMPACT HEADEND is prepared for the optional operation with a remote control system.

The Basic Unit OK 40 A

Technical data:

Inputs	5x F-type connector
Input level	70-90 dBµV
Frequency range	920-2150 MHz
Thru loss (SAT-IF input-output module)	21 ± 2 dB
LNC remote voltage input SAT 1+ SAT 3	13/18 VDC
LNC remote voltage input SAT 2+ SAT 4	13 VDC
Max. LNC power	0.6 A

Output amplifier

Frequency range	45-862 MHz
Output level 8 ch load / 60 dB IMR	103 dBµV
Output level 16 ch load / 60 dB IMR	100 dBµV
Power supply operating voltage	180-250 VAC

General specifications

Dimensions	442 x 270 x 265 mm
Ambient temperature	0 °C to +50 °C

Accessories

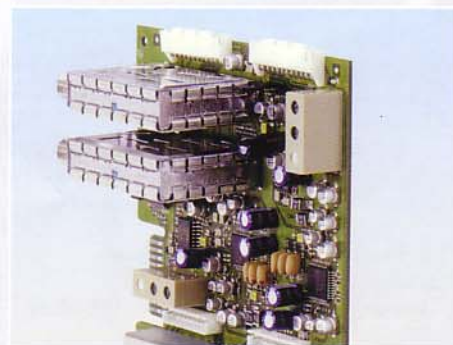|	
OK 41A	Programming device, detachable handset with visual display
OK 52	PC based Configuration software

OK 41A Handset

The modules

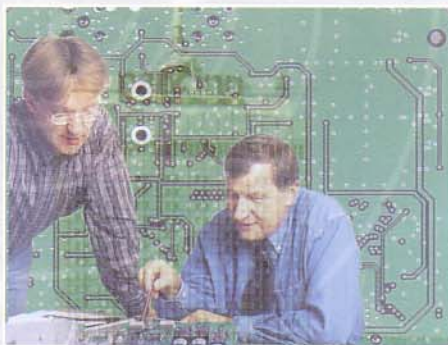## Features

Analog	OK 34	OK 44
*Stereo sound with optional module OK 46	DUAL-Modulator VHF-UHF-Mono*	DUAL-SAT VHF-UHF-Mono*
Input frequency range	Audio-Video	920-2150 MHz
Output frequency range	47-862 MHz	47-862 MHz
Output channel	ch 2-69	ch 2-69
TV standard	B/G, D/K, I, M,L	B/G, D/K, I, M,L
Adjacent channel capability	✔	✔
Output level with basic unit at 16 channels	105 dBµV	105 dBµV
IF bandwidth	-	15/27 MHz
Sound subcarrier range	-	5-9 MHz
Frequency tuning	-	10 kHz steps

Analog	OK 45	OK 45 A
	2 TV-channel-amplifier	2 Multistandard TV-channel converter
Input frequency range	174-230/ 470-862 MHz	47-862 MHz
Input tuning steps	250 kHz	250 kHz
Input level :		
PAL B/G, D/K, I, L	50-78 dBµV	55-90 dBµV
DVB-T	40-68 dBµV	-
Output frequency range	47-68/ 174-862 MHz	47-862 MHz
Output frequency stability	≤ ± 75 kHz	≤ ± 45 kHz
Return loss	> 8 dB	> 8 dB

Analog	OK 46
	Stereo module for OK 34/OK 44
Frequency range - audio	0.04 - 15 kHz
Audio level - adjustable	-6/-3/0/3/6 dB
Channel separation	> 20 dB
TV standard PAL	B/G, D/K

Analog	OK 48
	Decoder interface module for OK 44
Decoder socket, D SUB 15 pin	
Connection for Pay TV decoders and other external devices	

Digital	OK 75 / OK 75 A		OK 76 / OK 77
	DVB/QPSK - QAM DUAL-transmodulator		Digital SAT-receiver - QPSK / PAL Free To Air Digital SAT-receiver - QPSK / PAL Common, Interface
Input frequency range		950-2150 MHz	
Input level		47-70 dBµV	
Type of modulation (in)		QPSK	
Input symbol rate		2-45 MS/s	
FEC inner code		Reed Solomon Conv., K=7, R=1/2, 2/3, 3/4, 4/5, 6/7, 7/8, 8/9	
FEC outer code		RS (204, 188.8)	
Video decoder	-		ISO 13818-2 MPEG 2 (MP@ML)
Audio decoder	-		ISO 13818-3 MPEG 2 (L1, 2)
Output frequency range	0.5 MHz steps	45-862 MHz,	0.25 MHz steps
Output level (1 dB steps)	78-88 dBµV		88-98 dBµV
Type of modulation (out)	4-,16-, 32-, 64-, 128-, 256-QAM		PAL standard B/G, D/K, I, L, M, N
Output symbol rate	3.45-7 MBaud		-

OK 75 A Special features:
- PID filtering: supress programs
- NIT processing: replace Sat NIT by Cable NIT
- Bit-stuffing: null packet insertion
- PCR correction
- OP-ID insertion

FM	OK 22	OK 42	OK 72
	FM amplifier	QUAD-FM-converter	DUAL digital sat audio receiver / FM modulator with RDS
Frequency range / modulation	87.5-108 MHz / FM	87.5-108 MHz / FM	950-2150 MHz / QPSK
Gain	45 dB	-	-
Input frequency tuning	-	10 kHz steps	1 MHz steps
Input level	-	47-87 dBµV	47-70 dBµV
Output frequency rang / mod.	87.5-108 MHz / FM	87.5-108 MHz / FM	87.5-108 MHz / FM
Output frequency tuning	-	50 kHz steps	50 kHz steps
Output level	> 108 dBµV	78-88 dBµV	90 dBµV

The future in signal processing

Digital flexibility

The compact evolution

- **Dual transmodulators on one module**
- **8 modules in one station -**
  16 QPSK-QAM transmodulators
  (manipulation on stream level)
- **Digital channel processing**
- **Superior price / performance ratio**
- **ZERO - IF -technology**

Digital transmission with QAM modulation allows high data rates up to 52 Mbit/s in 8 MHz channels. The OK 75 A displays the actual QAM rate and the QPSK error rate.
The maximum rate is 57 Mbit/s with 256 QAM. The programmed parameters are stored in a permanent memory thus it is secure at power failure. The module can be configured via the front panel display as well as with a Windows based laptop software.

In order to adapt to cable needs the OK 75 A is capable to manipulate the MPEG Transport Stream. It allows to replace the NIT (Network Information Table), especially to modify the frequency values which are used in the cable network.
Furthermore the OK 75 A is able to delete program datastreams in the multiplex (PID-filtering) by replacing the program packets with null packets. This feature usually needs PCR correction and bit-stuffing and thus leads to a fixed data rate in the QAM channel.
The OK 75 A works with CONAX CA OP-ID mechanism and inserts new OP-IDs in the CAT table.

WISI COMPACT HEADEND meets all the needs of a flexible digital headend and represents a class of its own.

OK 75 A DVB/QPSK - QAM DUAL-transmodulator
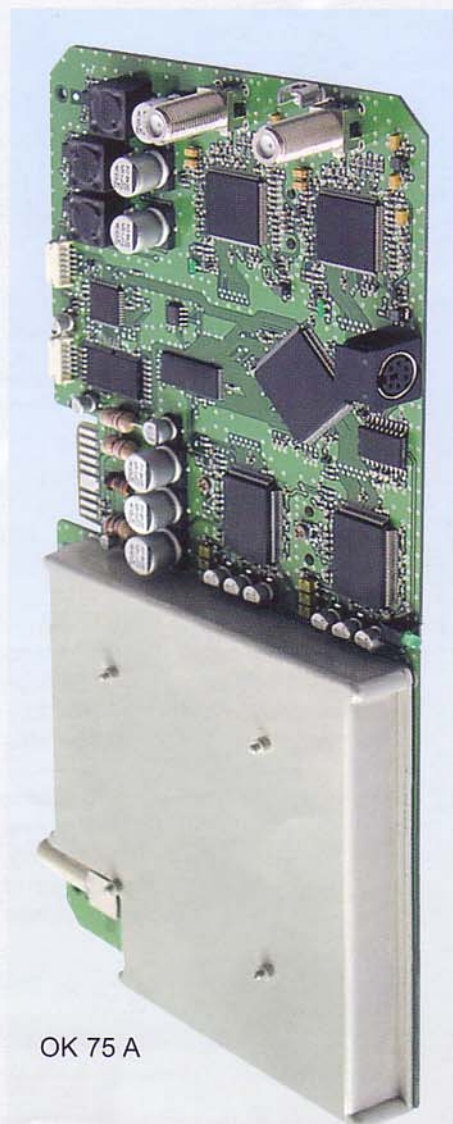
SAT-IF signal input

Frequency range	950-2150 MHz
Input level	47-70 dBµV
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, 6/7, 7/8, 8/9
FEC outer code	Reed Solomon (204, 188.8)

Output

Frequency range	45-862 MHz
Output level	78-88 dBµV
Return loss	$\geq$ 14 dB
Type of modulation	4-, 16-, 32-, 64-, 128-, 256-QAM
Output Symbol rate	3.45 -7 MBaud
Filtering	Nyquist $\sqrt{\cos}$
FEC outer code	Reed Solomon (204, 188.8)

NIT processing
PCR correction
PID filtering
BIT stufffing
OP-ID insertion

OK 75 A

... a link to the future