MWS-1000H/D –Point to Point Microwave Transmitter for Digital Television

MWS-1000H/D could be a cost-effective and reliable way to ensure the connection between a CATV headend and a regional studio transmitting one or more television programs via a low power microwave link. After getting the baseband signals of the studios (video w. stereo audio) the equipment processes the signals digitally, adds an error-correction code, and after modulating and upconverting them into the microwave band the Tx equipment emits the MW signal to the Rx equipment located on the radio transmitter station. The Rx equipment recovers the same baseband signal that was input to the Tx equipment.

A network built up from MWS-1000H/RD equipment consists of a point-to-point type program distributing Tx station and one or more Rx stations. Both the Tx and Rx stations need an antenna sharply directed. In case of more Rx stations more Tx antennas are necessary, so the directions belonging to the Tx antennas must be considered as different connections. The signal transmission is one-way, an optional backward transmission also must be considered as a different connection.

The input signals of the transmitter can be:

- Baseband (A-V) CCIR Rep.624 B/G D/K
- DVB-ASI

The output signals of the receiver can be:

- Baseband A-V CCIR rep. 624 B/G D/K
- DVB-ASI

Technical parameters :

MWS-1000H/D TRANSMITTER:

Input	
Video	
Composite	
System	PAL 625
Connector	BNC
Impedance	75 Ohm, Unbalanced
Code	MPEG-2
Number	1
Audio	
System	Analog
Connector	XLR
Max.input level	+15dBu (+6 +9dBu)
Impedance	10kohm Balanced
Number	2
DVB-ASI	
Standard	EN50083-9,
Bit Rate	270 MBps +/- 100 ppm
Impedance	75 ohm, Unbalanced
Connector	BNC
Number	1
Video and Audio Process	
Encoding	ISO/IEC13818-2 (MPEG2) Compilant
Chroma Format	4:2:2
Encoding Rate (Video)	0.5 – 20 MBit/s
Resolution	max.720x576, interlacing at 25 Hz
Encoding mode	Constant (CBR)
Encoding Rate (Audio)	448 kbit/s (Max)
Audio sampling frequency	32 kHz, 44.1 kHz, 48 kHz
Output *	
System	Compilant with DVB-C standard (EN 300 429)
Output Frequency	468-492MHz adjustable
Frequency Step	250kHz
Output level	Typ. 110dBuV
Modulation type	16; 32; 64 QAM
Occupied Bandwidth	B=Sx(1+k) (B= Bandwidth[MHz], S=Symbol rate[Ms/s], k=roll-off factor)
Connector type	„F” female
Impedance	75 Ohm
Number of outputs	1

DVB-ASI	
Standard	EN50083-9,
Bit Rate	270 MBps +/- 100 ppm
Impedance	75 ohm, Unbalanced
Connector	BNC

MWS-1000H/D RECEIVER:

Input **	
RF input	
System	Compilant with DVB-C standard (EN 300 429)
Frequencies VHF Low	468-492MHz adjustable
Frequency step	62.5kHz
Input level	44 – 84 dBuV
Modulation types	16,32,64 QAM (ETS 300 744)
Channel spectrum	Normal / Inverse
Connector	„F" female
Impedance	75 Ohm
Number of inputs	1
Efficient input bit rate	
16QAM	3,3…24Mbit/s
32QAM	4,1…30Mbit/s
64QAM	5…38 Mbit/s
Output	
Video	
Composite	
System	PAL 625 B/G
Connector	BNC
Impedance	75 ohm, Unbalanced
Code	MPEG-2
Number	1
Audio	
System	Analog
Connector	XLR
Impedance	<150ohm Balanced
Max.output level	+9dBu (600ohm)
Number	2
DVB-ASI	
Standard	EN50083-9,
Bit Rate	270 MBps +/- 100 ppm
Impedance	75 ohm, Unbalanced
Connector	BNC