



WAYBER-R12K17

DESCRIPTION

Wayber is the name of an analogue microwave link able to transport a Mono or a FM MPX stereo signal from studio to FM transmitter. Compact and reliable, it features very high quality and modern technology both in signal processing and microwave section leading to outstanding performances. This new equipment is compatible with T-R/NBFM from Elber, now out of sale.

The front panel presents a 2" TFT touchscreen, the Ethernet management port, a USB connector for customer authentication and firmware upgrade, one fan field-replaceable and some leds for immediate information about equipment status.

The back panel hosts all input/output connectors either for baseband and RF signals; baseband interfaces are Left and Right (analogue and AES-EBU), MPX and SCA. If inputs are Left and Right channel, the transmitter can act also as a stereo encoder, generating the MPX signal adding SCA sub-carriers or creating RDS data through UECP protocol over RS-232 interface (future option).

For easy assembly, maintenance or bandpass filter replacement, the transmitter and the receiver boards can be extracted from the back avoiding to open the equipment. The microwave section is wideband and can work between 400 MHz-1 GHz and 1-2.8 GHz.

Based on a Linux embedded OS, it offers a very intuitive GUI, either through web and Touchscreen TFT display. Power supply can be single (AC and/or DC) or dual (hot swappable for redundancy).

FEATURES

- Self-contained compact solution (1U RACK 19")
- Slim line indoor units
- Frequency Band: 400 MHz ÷ 1 GHz
1 GHz ÷ 2.8 GHz
- Up to 25 MHz frequency agile
- Digital Signal Processing Technology
- Very low phase noise
- IF bandwidth: 200 KHz
- Output Power: 34 dBm
- Very High spurious suppression
- Excellent Noise figure
- FM stereo Multiplex or audio Mono in/out
- TFT front panel control
- Embedded Linux OS
- Dual Power supply (Hot Swappable)
- WEB interface, SNMP

SPECIFICATIONS

General:

Frequency range:	400 MHz ÷ 2.8 GHz
Frequency agility:	any 25 MHz (bandpass filter)
Frequency resolution:	1 KHz
Frequency stability:	± 1 ppm
IF frequency:	125 MHz (anal.), 25 MHz (digital), Zero IF

Transmitter:

RF Output Level:	+34 dBm (3W)
Level Adjustment:	20 dB in 1 dB steps
RF connector:	N(f) 50 Ω
RF monitor connector:	SMA(f) 50 Ω
Spurious emissions:	< -60 dBc
Harmonics:	< -60 dBc

Modulator:

Pre-emphasis:	50 / 75 μs
MPX/SCA/RDS Inputs:	
Impedance:	10 KΩ/600 Ω (selection with jumper)
Level:	-3 dBu ÷ +9 dBu (input att. off) or -6 dBu + 3 dBu (input att. off) +3 dBu ÷ +15 dBu (input att. on) or 0 dBu ÷ +9 dBu (input att. on) or
Level adj. MPX:	+6 dB ÷ -6 dB steps 0.1 dB
Level adj. SCA:	18 dB Attenuation ON/OFF
Connector	BNC(f) 75 Ω

Sensitivity:

(@ dev control = 100%, inputs level = 6 dBu; gain adj = 0 dB; 6 dB atten = OFF)

MPX1/RDS	± 75 KHz
SCA1/ SCA2	18dB atten OFF: ± 75 KHz 18dB atten ON: ± 9.4 KHz
Pilot:	7.5 KHz
CH right	67.5 KHz pk
CH left	67.5 KHz pk

Deviation clipping limit: 37.5KHz ÷ 150 KHz pk

Encoder:

MPX Source selection:	MPX1 or Internal stereo encoder
Mode:	MONO/STEREO
Inputs:	Channel LEFT and RIGHT balanced
Impedance:	10 KΩ/600 Ω (selection with jumper)
Level:	-3 dBu ÷ +9 dBu (input att. off) +3 dBu ÷ +15 dBu (input att. on)
Level adj.:	+6 dB ÷ -6 dB steps 0.1 dB
Connector	XLR(f)
Pilot level adjustment:	50% ÷ 200 %

Receiver:

Dynamic Range:	-20 dBm ÷ -100 dBm
Spurious Rejection:	> 70 dB

Selectivity:

@ ±150 KHz	± 0.01dB
@ ±200 KHz	> -85 dB

Demodulator:

MPX/SCA Outputs:

Connectors:	2 x BNC(f)
Impedance:	< 50 Ω unbalanced
Level:	-3 dBu to +9 dBu (output atten. on) +3 dBu to +15 dBu (output atten. off)
Level adj. :	+6 dB ÷ -6 dB steps 0.1 dB
De-emphasis:	50 / 75 μs
Gain Flatness:	
MPX:	< ±0.1 dB @ 0 Hz ÷ 80 KHz < ±0.2 dB @ 80 KHz ÷ 100 KHz
SCA:	< ±0.2 dB @ 60 KHz ÷ 100 KHz < -65 dB @ 0 Hz ÷ 48 KHz

Decoder:

Outputs:	Channel LEFT and RIGHT balanced
Connectors:	XLR(m) Left and Right
Impedance:	< 50 Ω balanced
Output Level:	-3 dBu to +9 dBu (output atten. on) +3 dBu to +15 dBu (output atten. off)
S/N Unweighted:	> 65 dB @ 1mV > 58 dB @ 100 μV > 40 dB @ 20 μV
Stereo Separation:	> 40 dB 0÷15 KHz
THD+noise:	< 0.3%
Gain ripple:	< 0.1 dB 0 Hz ÷ 10 KHz < 0.2 dB 10 KHz ÷ 15 KHz

Control:

Front panel (TFT touchscreen display)

Web browser (embedded http server, no additional software needed)

SNMP v2

Electrical:

Dual redundant hot swappable

Supply:	AC	90-260 V~ 47/63 Hz IEC 320
	DC	22 ÷ 65 V 2 pins plug
Power consumption:	< 45W	

Mechanical:

Chassis:	1U Rack 19"
Dimensions:	
Width	482.5 mm
Height	43.65 mm
Depth	258 mm (without handles and connectors)
Weight:	7 Kg

Environmental:

Operative Temp.:	-10 ÷ 55°C
Relative humidity:	0 - 95% non condensing

**Elber reserves the right to make changes to specifications of products described in this datasheet at any time without notice and without obligation to notify any person of such changes.*



ELBER Srl. Via Pontevicchio, 42W - 16042 Carasco (GE) Italy
Phone +39.0185.351333 fax +39.0185.351300
www.elber.com - elber@elber.it