

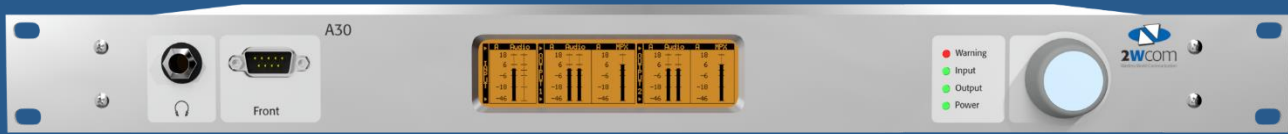
A30

FM/DAB monitoring
decoder

FM/DAB monitoring, backup – and rebroadcast - receiver



A30 FM/DAB monitoring decoder



RF capabilities

- ▶ Dual FM tuner, DAB+ tuner, 3 RF antenna Inputs
- ▶ Large-signal characteristic: Up to 120 dB μ V RF input
- ▶ Preset for 30 FM stations (optional: 30DAB+ stations/services)

FM monitoring and measurement

- ▶ Measurement / display of FM & RDS signal parameters RF level, pilot, PI, PS, TP, TA, PTY, RT, BER, ODA AIDs, SNR, freq-offset. MPath, MPX power, MPX deviation, pilot deviation, RDS deviation
Optional: graphical presentation of MPX power, MPX deviation distribution, MPX deviation peak (see page "A30 enhanced web interface" of datasheet)
- ▶ Demodulation and control of different FM programs
- ▶ Decoding of RDS parameters including TMC and RT+ messages (RDS Lab)
- ▶ Optional: scan mode for monitoring of up to 30 stations
- ▶ Optional: RDS logger for continuous recording of all RDS group data
- ▶ Optional: Internal memory (up to 32 Gigabyte) for logging TMC, RT, RT+, TA, MPX power, MPX deviation ; accessible via FTP

Optional: DAB/DAB+ demodulation/monitoring

- ▶ Ensemble: label, short label, ensemble ID, date, time, workload, RF level, SNR, CNR, FIC quality
- ▶ Station/service: ID, type, CA, protection, bitrate, samplerate, audio mode, DL, title, artist, programm, cat. slideshow (50 slides)

Audio monitoring and measurement

- ▶ Display of audio level L and R (TRMS) for FM / DAB tuner, MPX Input and audio input

Optional: external MPX input

- ▶ All MPX measurements and display for external MPX input possible

Audio/MPX output

- ▶ 2x output of audio AES/EBU, analog (switchable), 2x MPX output

High sophisticated alarm concept

- ▶ Alarm reporting via e-mail, SNMP, Web interface, activation of relay contacts, Log and warning LEDs

Backup and rebroadcast functions

- ▶ Professional rebroadcasting
- ▶ Passive loop through for audio and MPX with switch over matrix to FM signal triggered by SNMP or GPIO input:
Insertion of a backup program (breakdown of main input, power failure)
- ▶ RDS databridge (UECP RDS data output via UDP/IP)
- ▶ Compatible to premium RDS decoding software

IP streaming

- ▶ 1x MP3 live streaming via TCP/IP, selectable (FM, DAB, MPX, Audio input)
optional: 2x MP3 live streaming

Control

- ▶ Redesigned web interface for easy setup and simply control via standard web browser



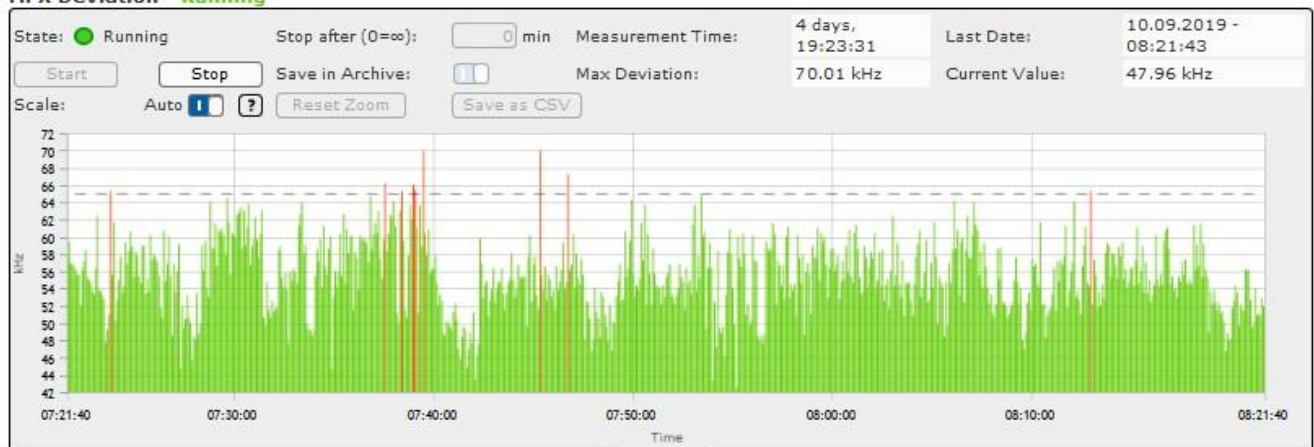
A30 enhanced MPX measurements



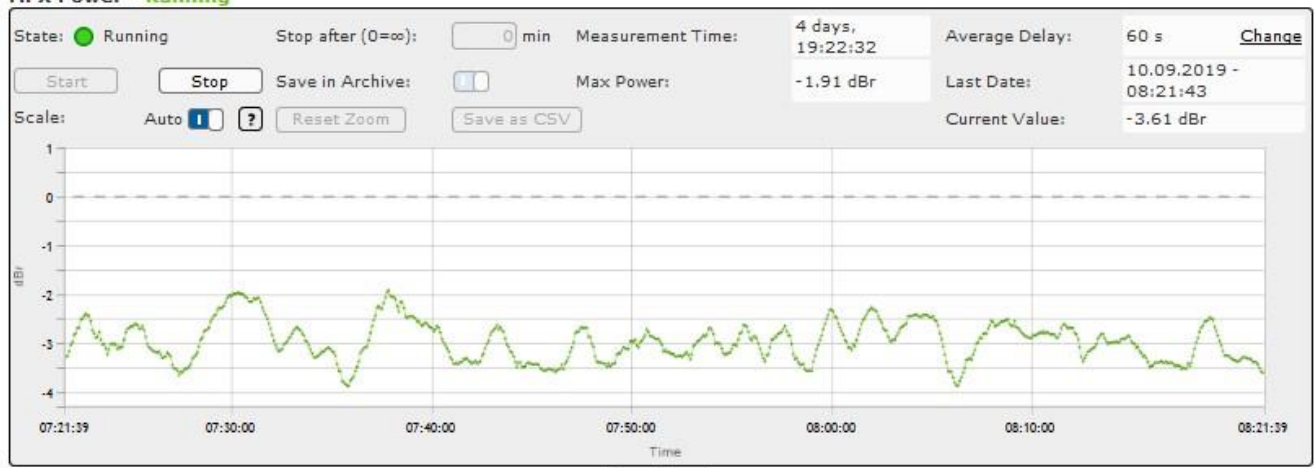
Cumulated MPX Deviation Distribution - Running



MPX Deviation - Running



MPX Power - Running





Technical details 1/3



Inputs

RF-FM

2 unbalanced, BNC
internal switch matrix

Impedance 50 Ω

Frequency range 87.5...108.0 MHz
76.0...90.0 MHz (Japan)
50/100 kHz steps

RF sensitivity
(S/N 40 dB, stereo) 35 dBμV

Max. RF input 120 dBμV

RF-DAB

1 unbalanced, BNC
(optional)

Impedance 50 Ω

Frequency range 168-240 MHz
(DAB Band III)

RF sensitivity 10 dBμV

Max. RF input 100 dBμV

MPX

MPX loophrough
optional: MPX
measurements

Connector BNC unbalanced, 1x rear

Impedance >10 kΩ

Inputs (passive loop through)

MPX connector BNC

AES/EBU / Audio L connector XLR

Audio R connector XLR

Measurement

FM

RF level 20...120 dBμV

SNR Typ. 65 dB

Frequency offset +/- 10 kHz

MPATH 0...100%

MPX power (graph: optional) -50...+20 dB

MPX deviation (graph: optional) 120 kHz

MPX distribution cum. graph (optional) 0...120 kHz

Pilot deviation 0...+10 kHz

Stereo blend 0...100%

RDS

RDS deviation Measurement of RDS deviation (error <3 %)

RDS decoding Via web interface: PI, PS, RT, TA, TP, ODA AIDs, PTY, CT, Additionally via RDS lab SW: -Group sequence, group statistics, content of all group types, TMC, RT+

Optional: TMC Pro, EWR

RDS block error rate 0...100%

Audio

Audio level Separate measuring of audio level L/R (RMS) for tuner and input

DAB (optional)

RF level 0...100 dBμV

FIC quality 0...100%

Audio Separate measuring of audio level

PAD DLS, Cat. slideshow



Technical details 2/3

Ensembl decoding	Ensembl ID, label, short label, workload (CU usage), service count, sub-channel count, date, time
Service / subchannel decoding	Service ID, label, short label, CAID, sub-channel ID, CU start, CU size, CA, protection, bitrate, sample rate, type

Outputs

Multiplex	2x unbalanced BNC (On request: 1 balanced XLR)
Impedance	<20 Ω
Level	Max. 15 dBu
Frequency response	20 Hz...95 kHz \pm 0.1 dB
Signal/Noise ratio (75 kHz deviation)	Typ. 70 dB stereo
Harmonic distortion	Typ. 0.05%
Stereo separation	>48 dB

Analog audio	2x L/R balanced XLR
Impedance	<20 Ω
Level	max. 15 dBu
Frequency response	20 Hz...15 kHz \pm 0.1 dB
Deemphasis	50 μ s (optional 75 μ s)
Signal/noise ratio (75 kHz deviation)	Typ. 70 dB stereo
Harmonic distortion	Typ. < 0.1%
Stereo separation	>40 dB

Digital audio	2x AES/EBU balanced XLR
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Front panel

LCDisplay	Graphical, 264x64 pixel
Jog wheel	Impulse, ENTER button
4 duo LEDs	Power, input, output, warning

Alarm functions

Controlling data FM	RF level, MPX power, MPX peak deviation, no pilot, no RDS sync, TA, no TA, PI, PS, block error rate, pilot deviation, RDS deviation, audio level L, audio level R
Controlling data DAB (optional)	Ensemble: RF level, FIC quality Station (Service): audio level L, audio level R, slideshow image update, slideshow image loadtime Received within x sec. / change
Control content (RDS group)	

Scanmode (optional)

Max. stations Setup	30 Switch over time, RF input 1/2
Control functions	On all alarm functions

Interfaces

Remote control input	7 inputs
Connector	15 pole sub-D female
Remote control output	7 floating relays (6x SPST, 1x SPDT) (for DC: max. 30 V, 0.5 A)
Connector	15 pole sub-D male
TCP/IP data interface	Input/output setup functions
Connector	RJ45
Type	Full duplex 10/100 BASE-T
Data format	HTTP, SNMP, SNTP, optional: FTP



MP3-encoder

Type	MPEG 1/2 Layer 3 encoder
Transmission of encoded MP3 data by TCP/IP optional: 2x MP3 stream	Adjustable MPEG encoder quality in 3 steps Adjustable sample rates for latest Live-stream-Technology Reception of audio-live-stream by shoutcast compatible media player like WinAmp or VLC or via web-browser
Internal input	From FM/DAB tuner module Optional: MPX in, Audio in

General data

Power consumption	40 VA
Case dimensions	19", 1 HU, 310/424/484 mm
Weight	< 4kg
Housing	Steel plate (aluminum-zinc coated)
Operating temp. range	0...+45°C
Storage temp. range	-40...+70°C
Power supply	Internal, 90...260 V, 47...63 Hz