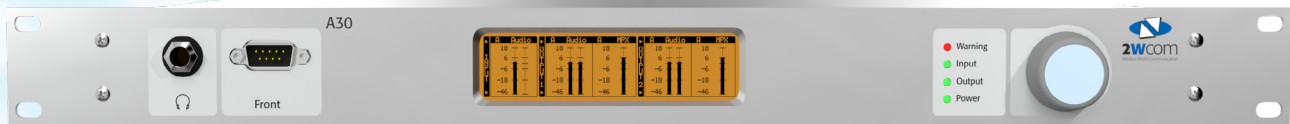


A30 FM/DAB Monitoring Decoder

Professional, flexible FM/DAB Monitoring and
Measurement Receiver
Backup- and Rebroadcast-Receiver



 Energy efficient,
no moving parts, no fan

RF capabilities

- Dual FM tuner, DAB+ tuner, 3 RF antenna inputs
- Large-signal characteristic: Up to 120dB μ V RF input
- Preset for 30 FM stations (optional: 30 DAB+ 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 3 of datasheet)*
- Demodulation and control of different FM programs
- Decoding of RDS parameters including TMC and RT+ messages (RDS Lab)
- *Optional: scanmode 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

A30 FM/DAB Monitoring Decoder



Backup and rebroadcast functions

- Professional rebroadcasting
- Passive loopthrough 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)

IP streaming

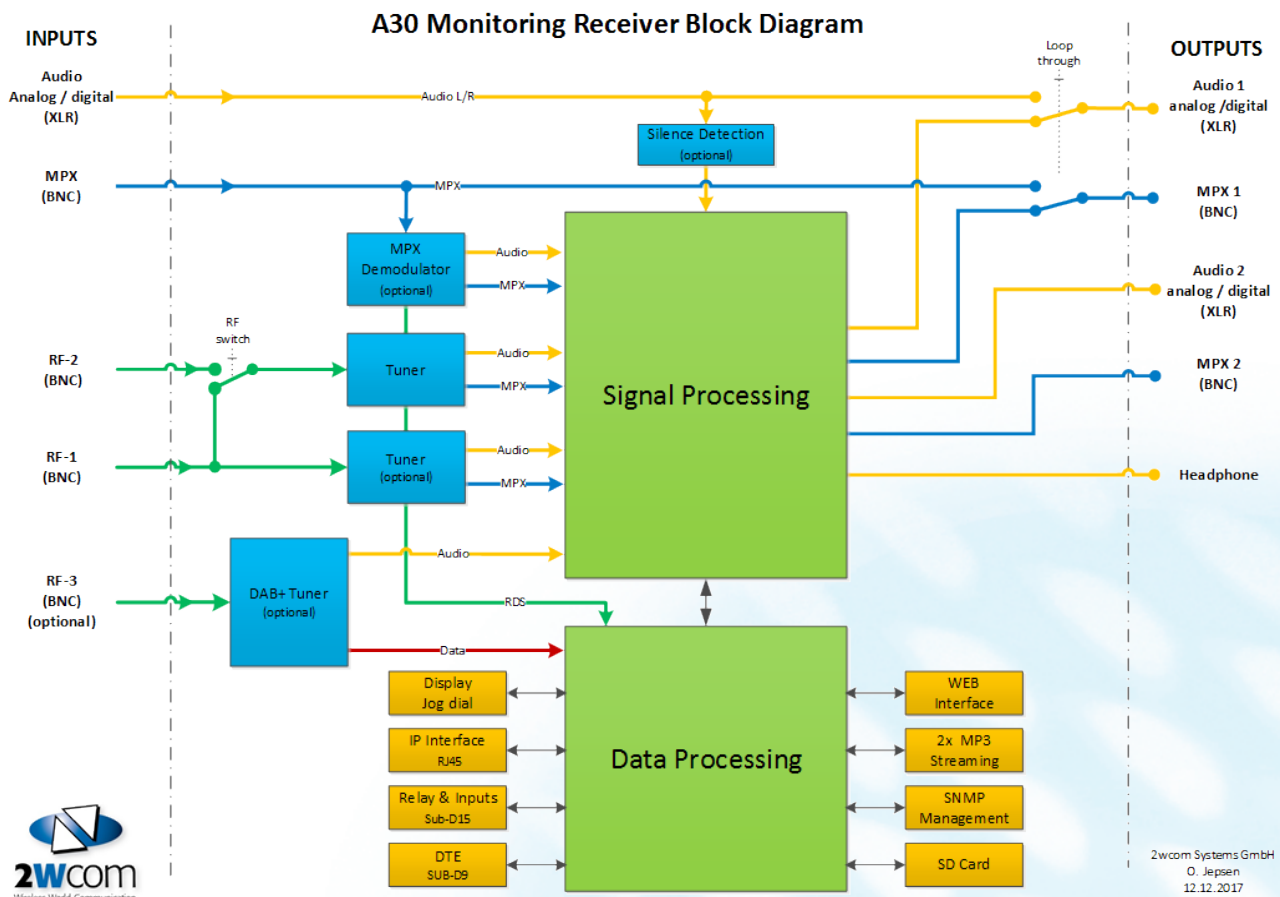
- 1x MP3 live streaming via TCP/IP, selectable (FM, DAB, MPX, Audio input)
optional: 2x MP3 live streaming,

Control

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

Compatibility

- Downward compatible to the A20s interfaces and instruction set
- Compatible to premium RDS decoding software RDS Lab



2wcom Systems GmbH
O. Jepsen
12.12.2017

A30 enhanced webinterface

Measurement and graphical presentation of MPX values (optional)



MPX Measurements

Tuner 1
Tuner 2
Archive

Master Control: Start all Stop all
Station: 1 - SRF 1 (93.2 MHz)
Alarm Settings

Cumulated MPX Deviation Distribution - Running

State: ● Running
Stop after (0=∞): min
Measurement Time: 01:40:11
Time > ±75 kHz: 0 s

Start Stop
Density at ±75 kHz: 0
Cum. Density > ±75 kHz: 0 %
Dev. for 1E-5 cum: ±54.2 kHz

Last Date:
02.05.2018 - 15:18:53

MPX Deviation - Running

State: ● Running
Stop after (0=∞): min
Measurement Time: 01:40:08
Last Date: 02.05.2018 - 15:18:53

Start Stop
Save in Archive:
Max Deviation: 68.41 kHz
Current Value: 58.16 kHz

Scale: Auto ? Reset Zoom Save as CSV

MPX Power - Running

State: ● Running
Stop after (0=∞): min
Measurement Time: 01:39:15
Average Delay: 60 s [Change](#)

Start Stop
Save in Archive:
Max Power: -1.56 dBm
Last Date: 02.05.2018 - 15:18:53

Scale: Auto ? Reset Zoom Save as CSV

A30 DAB+ Monitoring and features (optional)



DAB Tuner

Current Channel: 12B (225.648 MHz) Alarm Settings

Ensemble			
Label:	NDR SH	Short Label:	NDR SH
Ensemble ID:	0x000010F2	Workload:	800 CU / 92%
Services:	10	Sub-Channels:	10
Date:	02.05.2018	Time:	14:46:55

Valid: ● FIC: ● Acquired: ●

RF:		54 dBµV
SNR:		20 dB
CNR:		21 dB
FIC Quality:		100 %
FFT Offset:		0

Current Service

Label: N-JOY Alarm Settings

Short Label:	N-JOY	Service ID:	0x0000D385
Bitrate:	96 kbps	Samplerate:	48000 Hz
Audio Mode:	Stereo	Protection:	EEP A-2
DL:	N-JOY VOM NDR		
Title:	Your Song		
Artist:			
Programm:			
L Level:		-2.4 dBu	
R Level:		-2.4 dBu	

State: ● Slideshow Show:

All [8] Jetzt läuft [4] Nachrichten [1] Wetter [1] Events [1] Ko

14:46 **NJOY** Mi. 02. Mai 14:46

Nachrichten

- ▶ Scholz verteidigt Haushalts-Planungen
- ▶ EU will von Staaten mehr Geld
- ▶ Israel reagiert empört auf Abbas-Außerungen
- ▶ Nestlé einigt sich mit Edeka und Coop

DAB Explorer

Current Channel: 12B (225.648 MHz) Alarm Settings

Ensemble			
Label:	NDR SH	Short Label:	NDR SH
Ensemble ID:	0x000010F2	Workload:	800 CU / 92%
Services:	10	Sub-Channels:	10
Date:	02.05.2018	Time:	14:47:29

Valid: ● FIC: ● Acquired: ●

Services			
Service ID	Label	Short Label	CAId
0x0000D354	NDR Blue	NDR Blue	-
0x0000D383	NDR Kultur	NDR Kult	-
0x0000D385	N-JOY	N-JOY	-
0x0000D387	NDR Plus	NDR Plus	-
0x0000D4E1	NDR 1 SH	NDR 1 SH	-
0x0000DE82	NDR 2	NDR 2	-
0x0000DE84	NDR Info	NDR Info	-
0x0000DF84	NDR Info Spezial	NDR Spez	-
0xE0D000F0	NDR BWS	NDR BWS	-
0xE0D020F0	ARD TPEG	ARD TPEG	-

CU Usage

Sub Channels						
SubChId	Start	Size	Type	Service	CA	Protection Bitrate
1	0	96	DAB+	Slideshow (SLS)	No	EEP A-2 96 kbps
2	96	96	DAB+	Slideshow (SLS)	No	EEP A-2 96 kbps
3	192	96	DAB+	Slideshow (SLS)	No	EEP A-2 96 kbps
4	288	96	DAB+	Slideshow (SLS)	No	EEP A-2 96 kbps
5	384	96	DAB+	Slideshow (SLS)	No	EEP A-2 96 kbps
6	480	96	DAB+	Slideshow (SLS)	No	EEP A-2 96 kbps
7	576	96	DAB+	Slideshow (SLS)	No	EEP A-2 96 kbps
8	672	96	DAB+	Slideshow (SLS)	No	EEP A-2 96 kbps
49152	768	16	Packet	TPEG	No	EEP A-2 16 kbps
49153	784	16	Packet	Broad. Web Site	No	EEP A-2 16 kbps

Bandscan

Start ● Stopped

DR (5C) NDR SH (12B)

Nr.	Sel.	Sort	Name	Ch.	Service ID	Type	PTY	Mode	Bitrate	Protection	Services	Drag
1	<input type="checkbox"/>	↓	ARD TPEG	12B	0xE0D020F0	Data	None	Packet	16 kbps	EEP A-2	TPEG	+
2	<input type="checkbox"/>	↓	N-JOY	12B	0x0000D385	Audio	Pop	DAB+	96 kbps	EEP A-2	Slideshow (SLS)	+
3	<input type="checkbox"/>	↓	NDR 1 SH	12B	0x0000D4E1	Audio	Oldies	DAB+	96 kbps	EEP A-2	Slideshow (SLS)	+
4	<input type="checkbox"/>	↓	NDR 2	12B	0x0000DE82	Audio	Pop	DAB+	96 kbps	EEP A-2	Slideshow (SLS)	+
5	<input type="checkbox"/>	↓	NDR Blue	12B	0x0000D354	Audio	Rock	DAB+	96 kbps	EEP A-2	Slideshow (SLS)	+
6	<input type="checkbox"/>	↓	NDR BWS	12B	0xE0D000F0	Data	None	Packet	16 kbps	EEP A-2	Broad. Web Site	+
7	<input type="checkbox"/>	↓	NDR Info	12B	0x0000DE84	Audio	News	DAB+	96 kbps	EEP A-2	Slideshow (SLS)	+
8	<input type="checkbox"/>	↓	NDR Info Spezial	12B	0x0000DF84	Audio	Info	DAB+	96 kbps	EEP A-2	Slideshow (SLS)	+



A30 FM/DAB Monitoring Decoder – Technical Details

according to GENELEC EN 60950,
EMV EN55022 and EN55024

Inputs

RF-FM

Impedance
Frequency Range

RF sensitivity
(S/N 40 dB, stereo)
Max. RF input

RF-DAB

Impedance
Frequency Range
RF sensitivity
Max. RF input

MPX

Connector
Impedance

Inputs (passive loop through)

MPX connector
AES/EBU / Audio L connector
Audio R connector

2 unbalanced, BNC
internal switch matrix
50 Ω
87.5...108.0 MHz
76.0...90.0 MHz (Japan)
50/100 kHz steps
35 dBμV

1 unbalanced, BNC (optional)
50 Ω
168-240 MHz (DAB Band III)
10 dBμV
100 dBμV
MPX loopthrough
optional: MPX measurements
BNC unbalanced, 1x rear
>10 kΩ

BNC
XLR
XLR

Measurement

FM

RF level
SNR
Frequency offset
MPATH
MPX power (graph: optional)
MPX deviation (graph: optional)
MPX distribution cum. graph
(optional)
Pilot deviation
Stereo blend

RDS

RDS deviation
RDS decoding

RDS Block Error Rate

Audio

Audio level

DAB (optional)

RF Level
FIC Quality
Audio

PAD
Ensemble decoding

Service / Subchannel decoding

20...120 dBμV
Typ. 65 dB
+/- 10 kHz
0...100%
-50...+20 dBr
120 kHz
0...120 kHz
0...+10 kHz
0...100%
Measurement of RDS deviation
(error <3 %)
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
0...100%

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

0...100 dBμV
0...100%
Separate measuring of audio level
L/R (RMS)
DLS, Cat. Slideshow
Ensembl ID, Label, Short Label, Workload
(CU Usage), Service Count, Sub-Channel
Count, Date, Time
Service ID, Label, Short Label, CAID,
Sub-Channel ID, CU Start, CU Size, CA,
Protection, Bitrate, Sample rate, Type

Outputs

Multiplex

Impedance
Level
Frequency response
Signal/Noise ratio
(75 kHz deviation)
Harmonic distortion
Stereo separation

Analog Audio

Impedance
Level
Frequency response
Deemphasis

2x unbalanced BNC
(On request: 1 balanced XLR)
<20 Ω
Max. 15 dBu
20 Hz...95 kHz ±0.1 dB
Typ. 70 dB stereo
Typ. 0.05%
>48 dB

2x L/R balanced XLR
<20 Ω
max. 15 dBu
20 Hz...15 kHz ±0.1 dB
50 μs (optional 75 μs)

Signal/Noise ratio
(75 kHz deviation)
Harmonic distortion
Stereo separation

Typ. 70 dB stereo

Typ. < 0.1%
>40 dB

Digital Audio Headphone

Connector

2x AES/EBU balanced XLR

6.35 mm

Front panel

LCD display
Jog wheel
4 Duo LEDs

Graphical, 264x64 pixel
Impulse, ENTER button
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
Ensemble: RF Level, FIC Quality
Station (Service): audio level L, audio level
R, Slideshow image update, Slideshow
image loadtime
received within x sec. / change
Potential free relays, E-mail, SNMP, Log,
warning LED

Controlling data DAB (optional)

Control content (RDS group)
Alarm types

Scanmode (optional)

Max. stations
Setup
Control functions

30
switch over time, RF input 1/2
On all alarm functions

Interfaces

Remote control input

Connector

7 inputs
15 pole sub-D female

Remote control output

Connector

7 floating relays (6x SPST, 1x SPDT)
(for DC: max. 30 V, 0.5 A)
15 pole sub-D male
input/output setup functions

TCP/IP data interface

Connector

Type

Data format

RJ45
full duplex 10/100 BASE-T
HTTP, SNMP, SNTIP, optional: FTP

MP3-Encoder

Type
Transmission of encoded MP3 data
by TCP/IP
optional: 2x MP3 stream

MPEG 1/2 Layer 3 encoder
Adjustable MPEG Encoder quality in 3 steps
Adjustable sample rates for latest Live-
stream-Technology
Reception of Audio-Live-stream by shout-
cast compatible media player like WinAmp
or VLC or via web-browser
from FM/DAB tuner module
optional: MPX in, Audio in

Internal input

General data

Power consumption
Case dimensions
Weight
Housing
Operating temp. range
Storage temp. range
Power supply

40 VA
19", 1 HU, 310/424/484 mm
5 kg
steel plate (aluminum-zinc coated)
0...+45°C
-40...+70°C
Internal, 90...260 V, 47...63 Hz

Version 06.09.2018
These data are subject to
modifications and amendments.
Errors excepted



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