ANDREW Update

Bundesverband für Objektfunk in Deutschland e.V.

Magdeburg

Thomas Bieber

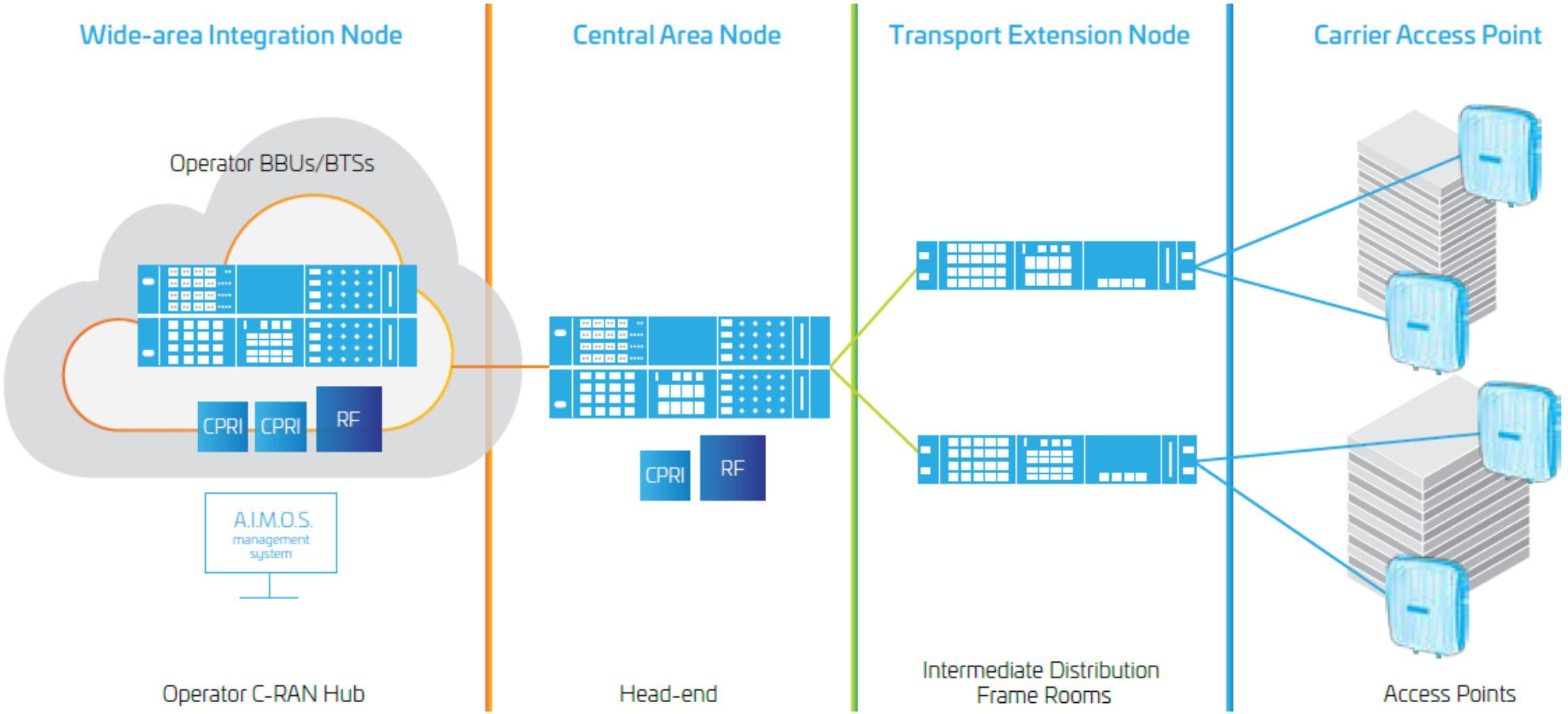
Andreas Hübener

Dietmar Pech

02.02.2026

ERA Overview

ERA System Architecture



Wide-area Integration Node only used to aggregate and remote RAN elements off-premise.
Transport Extension Nodes are only used to expend the number of Access Points to more than 16.

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ERA elements

Access Points


UAP2


CAP L2


CAP M


CAP M2


CAP H/H2

Fiber or Cat6A

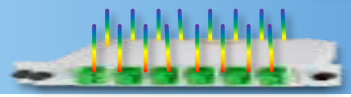
Fiber

Distribution Equipment

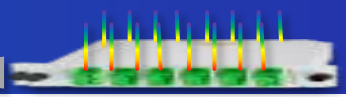

WIN (WCS4)


CAN (WCS4)


TEN (WCS2)



CWDM – up to 18 colors



Modules

Input Donor Cards


O-RAN Digital Donor Card (ORD)


CPRI Digital Donor Card (CDD & CDD2)


RF Donor Cards (RFD & RFD HB)

Transport Cards


Optical Transport Card (OPT & OPT2)


Copper Transport Cards (CAT & CAT2)

Service Cards


System User Interface (SUI)

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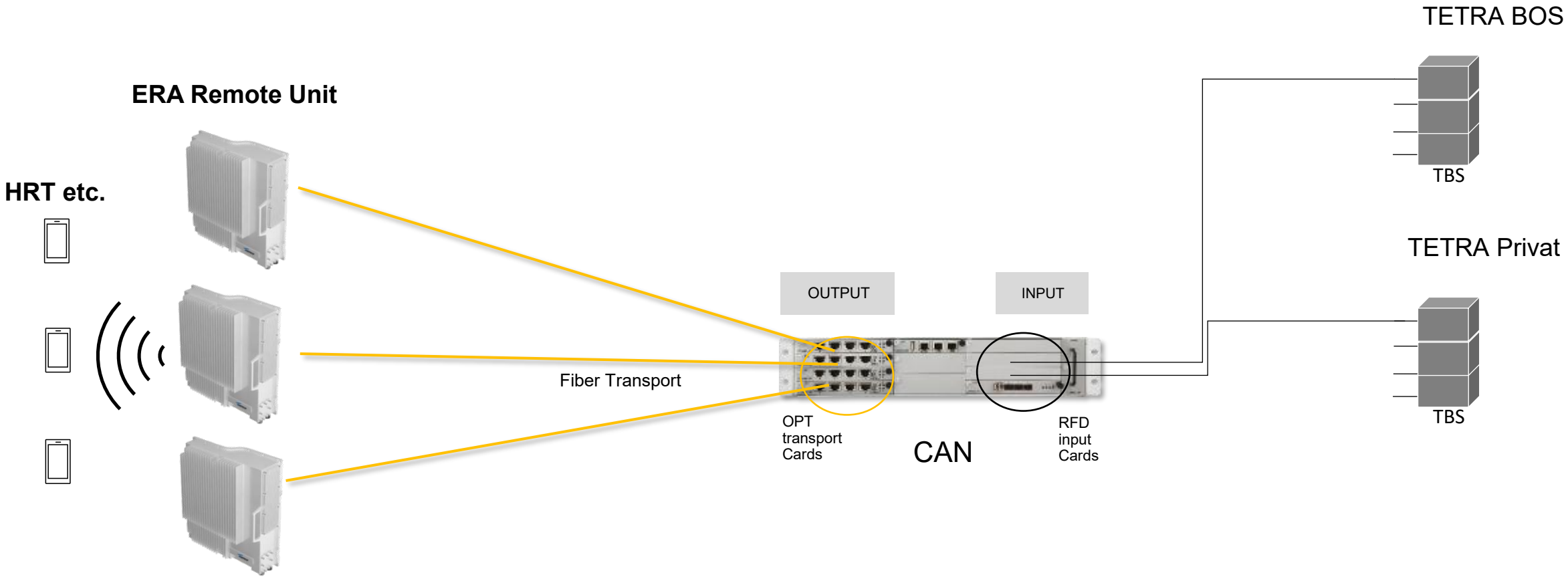
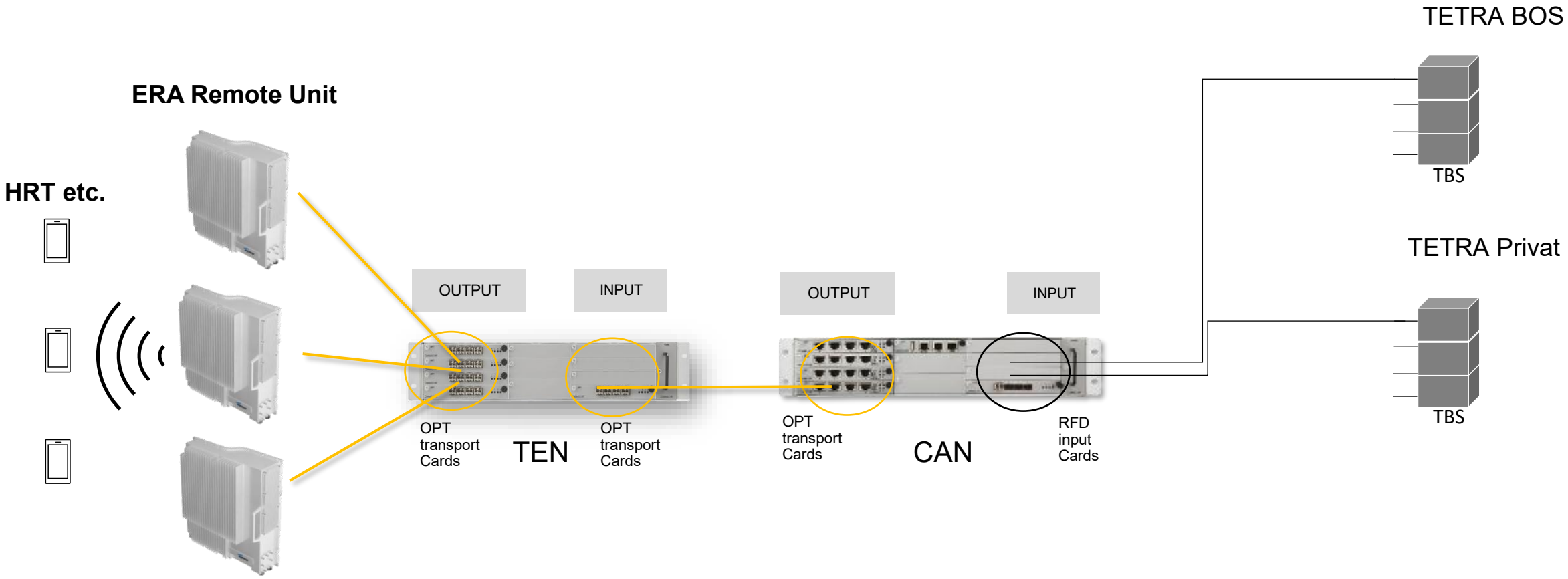
ERA - Einfache Basiskonfiguration



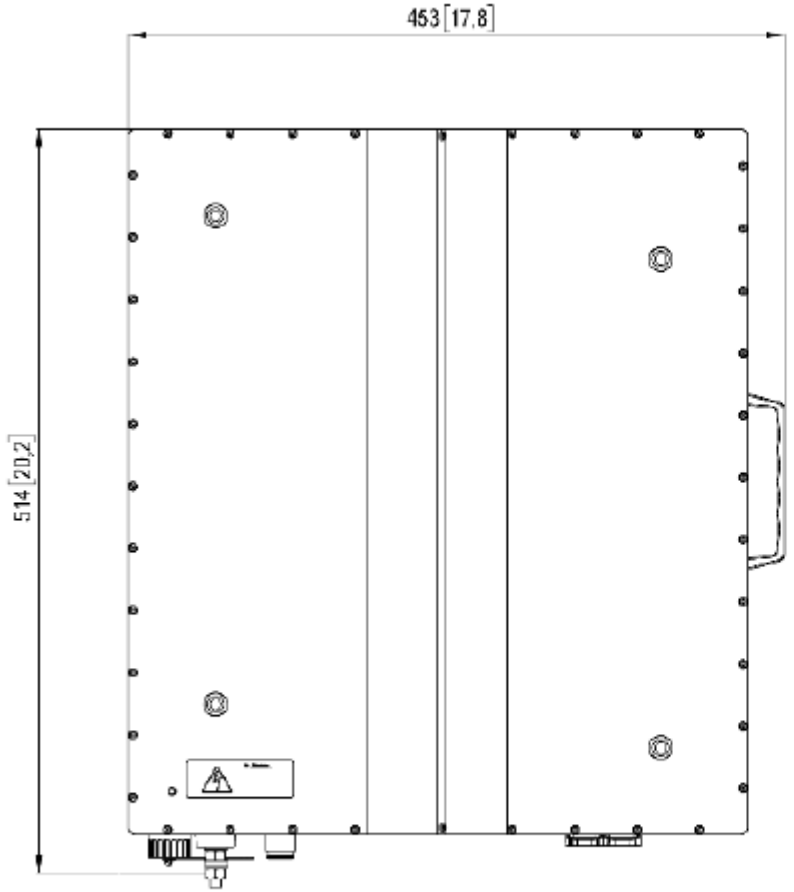
Interfaces
- RF
- CAT
- Fiber
- CPRI

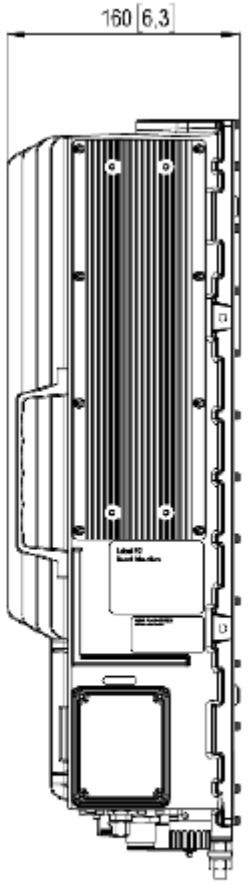
ERA - Metropolkonzept



CAP-M4

CAP-M4





Images and dimensions for illustrative purposes only. For installation dimensions including cabling and mounting brackets, please refer to the Installation Manual.

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CAP-M4

FEATURES AND BENEFITS

- License bands:
  - **4**: TETRA 380B
- **Digital Timing Normalization** for optimized coverage
- **Wall and pole** mounting options
- Dual unit in single wall mount capability
- **Integrated AC or DC** powered variants
- **Passive cooling**
  Optional fan kit to extend the **operating temperature** range to +50°C
- **IP66** outdoor rated

APPLICATIONS

- Indoor and mixed indoor/outdoor coverage

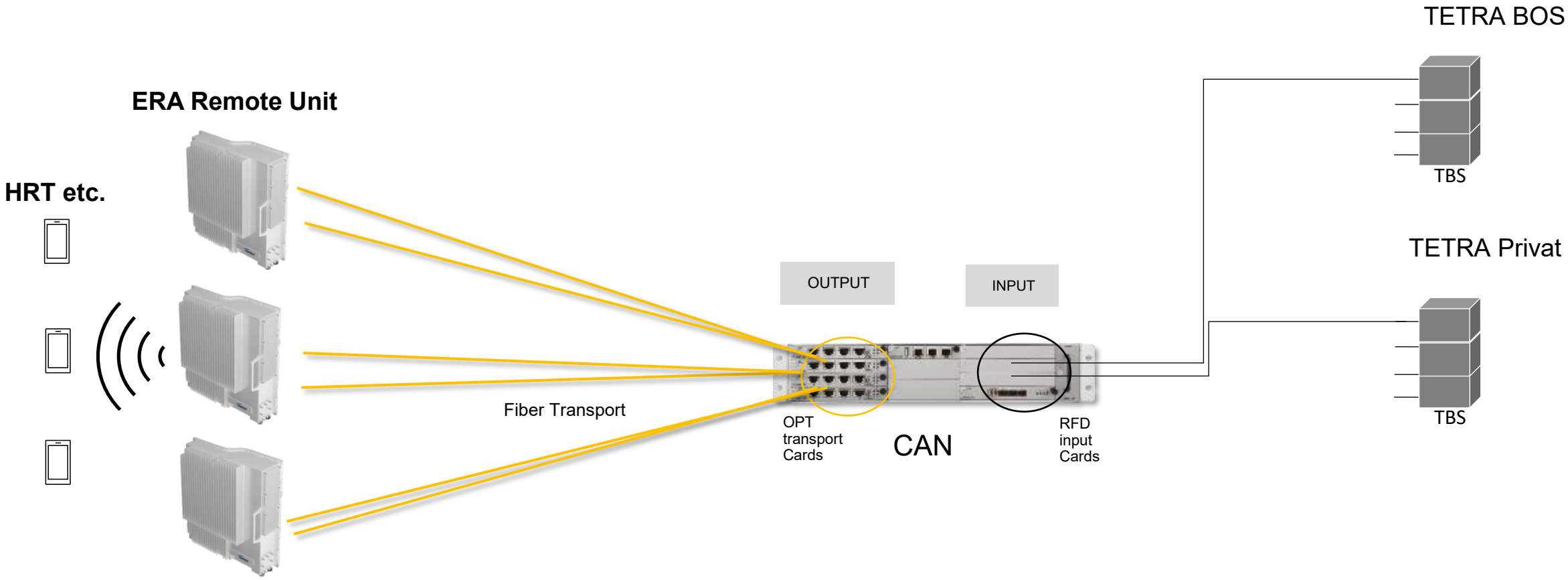
KIT CONTENTS

- OCTIS Universal Connector Kit
  - 7770612

SPECIFICATIONS

ATTRIBUTE	SPECIFICATION	
Operating frequency bands	4	390 – 396.5 MHz (DL) 380 – 386.5 MHz (UL)
Output power per antenna port, one carrier	4	34dBm
RF output power tolerance	±2 dB	
RF antenna ports, type	1, 4.3-10 female connector	
System noise figure, typical	4 dB	
Uplink ALC default threshold	-51 dBm	
Powering type	AC or DC	
Power consumption, typical (25°C)	160 W	
Number of input ports, type	2, LC/UPC SFP+ 10GBASE	
Dimensions (H x W x D)	514 x 453 x 160 mm (20.2 x 17.5 x 6.3 in)	
Packed dimensions (H x W x D)	330 x 610 x 750 mm (12.9 x 24 x 29.5 in)	
Weight	20 kg (44 lb)	
Operating temperature range	-33° C to +40°C (-27.4°F to +104°F)	
I/O interface	4 inputs / 4 outputs using CAP H AB 4-4	

Redundanzkonzept



Eine MU – Double Fiber

Interfaces
RF
CAT
Fiber
CPRI

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Roadmap

ERA roadmap EMEA & APAC

RELEASED		COMMITTED	UNDER INVESTIGATION
ERA SW V6.0 May 2025 Limited Availability	**ERA SW V6.10 Drop 2** August 2025 lab entry December: GA EMEA	**ERA 26rA** March 2026 lab entry Expected GA: 2Q26	**ERA 26rB** September 2026 lab entry Expected GA: 4Q26

TETRA-Komponenten stehen auf der Roadmap.
Die Roadmap / Feature werden wir gerne auf Nachfrage persönlich erklären

* Vulnerability fixes (SSH SNMP V2 public to private string) and SSL Certificate require AIMOS and any 3rd party update
** legacy APs require to be upgraded to V6.0 with OPT before connecting to OPT2

AIMOS roadmap EMEA & APAC

RELEASED	IN PLANNING	UNDER INVESTIGATION	
AIMOS SW V4.50 February 2025	AIMOS SW V4.70.0 February 2026	AIMOS 26rA 1Q26	AIMOS 26rB 3Q26

TETRA-Komponenten stehen auf der Roadmap.
Die Roadmap / Feature werden wir gerne auf Nachfrage persönlich erklären

Node A+/AM roadmap – EMEA & APAC

RELEASED		COMMITTED	UNDER INVESTIGATION
Node A+/AM SW V2.10.0 **March 2025** Features support • Wideband UL Muting for LTE • Power Mode 5G MIMO • Security enhancements (e.g. SHA256, HTTPS only)	**Node A+/AM SW V2.11.0** **August 2025** Features support • ETSI RED Cybersecurity compliance	**Node A+/AM SW V2.11.1** **January 2026** Features support • Transfer of fully encrypted SW package via SNMP	**Node A+/AM SW V2.12.0** **2Q26** Features support • Security enhancements • DCM AF 936eR (DCM for extended GSM-R)

2027 onward we will have one release/year to cover bug fixing and security enhancements

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Public Safety C-RAN

European Standards Overview

Lawful Regulation for C-RAN Infrastructure

It’s not a “Nice-to-Have” but a “Must-Have” to comply with European and International Standards

Governing Laws

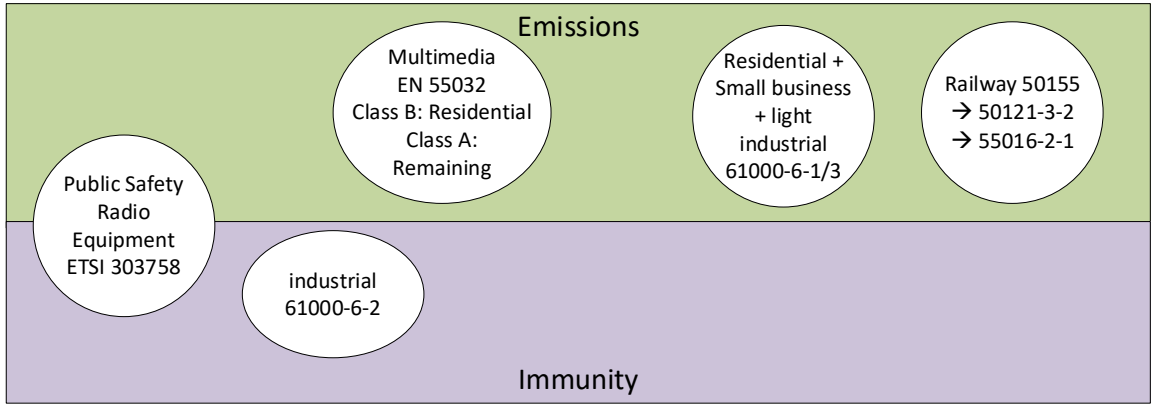
- 2014/53/EU (Radio Equipment Directive, RED)
  - Evolving regulatory framework covering radio equipment in the EU
  - Harmonized technical standards, e.g.
    - 5G Basestations: ETSI TS 138 104 V16.4.0 (2020-07)
    - TETRA Public Safety Equipment: ETSI EN 303 758
  - New: Article 3.3 Cybersecurity
- 2011/65/EU & 2015/863/EU (ROHS Directive)
- 2014/30/EU EMC/EMI
- 2014/35/EU Low Voltage Directive

2014/53/EU, Required Standards for Public Safety Infrastructure

ETSI EN 303 758 Vx.x.x: TETRA Radio Equipment Harmonized Standard

- Tetra Base Stations (TBS) → Modulation Accuracy, Frequency Error etc.
- Distributed Antenna Systems and Repeater → Spurious Emissions, Output Power etc.
- Handhelds → Output Power, Sensitivity etc.

EMC/EMI: EN 301489-1 for Radio Equipment and EN 61000-x for Specific Use-Cases, e.g. Industry



Electrical Safety Standard 62368-1

- Isolation Coordination
- IP Classes

NEW: Standards for Cyber Security of Radio Equipment

EN 18031-x: Security Requirements for Radio Equipment

- IOT Devices → Password Security, Resilience against Attacks, etc.
- DAS → Firewall, Vulnerability Tracking, etc
- Repeater → Password Security, Firmware Protection etc.

Example: CAP H 4/4 Conformity Declaration

Product Name: Era® CAP H (Central Access Point – High Power)
Brand: ANDREW, an Amphenol company
Model: CAP H 4/4
Type: 7841175-xxxx, 7853101-xxxx, 7863167-xxxx

complies with the essential requirements of the

- **Radio Equipment Directive 2014/53/EU** and
- **RoHS Directive 2011/65/EU & 2015/863/EU**

The product to which this declaration relates is in conformity with the following standards:

Safety (Article 3.1a)

EN IEC 62368-1:2020+A11:2020

Health (Article 3.1a)

EN 50385:2017

RoHS

EN 60300:2018

Security (Article 3.3d)

EN 18031-1

EMC (Article 3.1b)

ETSI EN 301489-1 V2.2.3
ETSI EN 301908-1 V13.1.1 (partial)
ETSI EN 55032:2015
ETSI EN IEC 61000-6-2:2019
ETSI EN 61000-6-3:2007 + A1:2011
ETSI EN 50121-3-2:2016
ETSI EN 50121-4:2016
ETSI EN 61000-3-2:2019
ETSI EN 61000-3-3:2020

Radio Spectrum (Article 3.2)

ETSI EN 303758 V11.1.1

- Compliance to the latest version of the relevant standard is mandatory for new products
- Example:
  ETSI EN 303758 V1.1.0 (2021) superseded ETSI EN 302561 V2.1.1 (2016)
- CAP 4/4 was released after 2021, compliance with ETSI EN 303758 is mandatory

Commissioning

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Thank you for your attention!