Product Specifications

TEKO DAS Platform US

10W-to-20W, software-defined remote units (SDRUs)

MODELS: T7E8AE19HAWXWXAT T7E8AE19HAWXWXDT

The T7E8AE19HAWXWXAT and T7E8AE19HAWXWXDT upgradable software-defined remote units (SDRUs) belong to the TEKO platform, the most advanced distributed antenna system (DAS) in the industry. SDRU is an innovative approach to DAS design and deployment, providing an upgradable, modular solution that takes the TEKO platform to the next level. The operating bands and output power of these remote units are tied to license keys that can be managed remotely using TEKO O&M software for real-time, non-service-affecting band and power upgrades.

The TEKO platform is a versatile, modular, multi-technology platform designed to offer flexible and reliable wireless coverage and capacity for both indoor and outdoor environments.

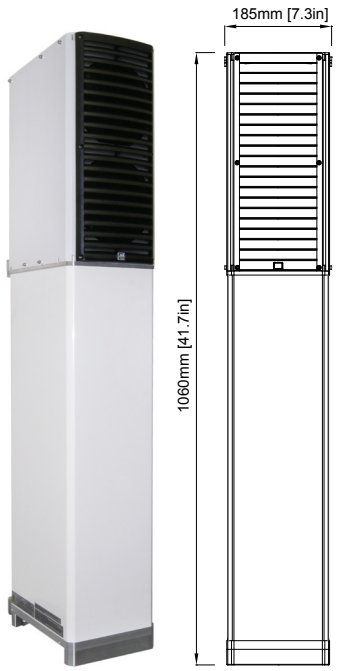
TEKO remote units have been expressly conceived for high quality of service and easy set-up:

- Automatic Gain Control (AGC) on the optical link with the Master Unit, for constant gain independently from optical losses;
- Feedforward Power Amplifiers expressly designed for IMD reduction over the entire bandwidth;
- High-efficiency Power Amplifiers, for reduced power consumption;
- Automatic Level Control (ALC) in the UL path independent for each band, for maximum quality of service;
- RF Antenna Combiners expressly designed for Multi-Operator functioning, providing high insulation and low passive intermodulation (PIM);
- Detection of VSWR Alarm, for maximum quality of service;
- Wavelength Division Multiplexing (WDM) for Tx/Rx communications with the Master Unit over the same optical fiber;
- Point-to-point and cascade connection with the Master Unit, for maximum flexibility of installation;
- Optical remote link up to 20km (12.4miles);
- New and innovative mechanical design, for easy installation and professional visual impact;
- IP66/Type 4 enclosure rating.

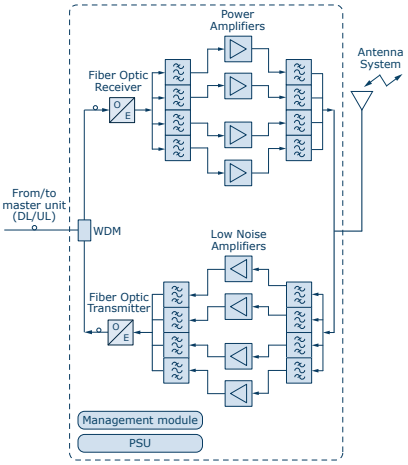
TEKO remote units are available in a wide range of different executions as for:

- Single-band – Multi-band,
- Operating frequencies from 380 to 2700MHz, complying with all the most important international standards for Mobile Communications and Public Safety,
- Different power classes.

They represent the ideal solution for cellular coverage extension and capacity distribution in any indoor application, campuses, long tunnels as well as in several outdoor scenarios.



TEKO pole-mount remote unit is suitable for wall, pole, and inside-pole mounting. External ports are available for the remote unit to be co-sited with Public Safety remotes.



Block diagram of the T7E8AE19HAWXWX SDRU

Warning

This is NOT a CONSUMER device. It is designed for installation by FCC LICENSEES and QUALIFIED INSTALLERS.
You MUST have an FCC LICENSE or express consent of an FCC Licensee to operate this device.
Unauthorized use may result in significant forfeiture penalties, including penalties in excess of $100,000 for each continuing violation.

Warning for Public Safety bands

This is NOT a CONSUMER device. This is a 90.219 Class B signal booster. It is designed for installation by FCC LICENSEES and QUALIFIED INSTALLERS. You MUST have an FCC LICENSE or express consent of an FCC Licensee to operate this device. You MUST register Class B signal boosters (as defined in 47 CFR 90.219) online at www.fcc.gov/signal-boosters/registration. Unauthorized use may result in significant forfeiture penalties, including penalties in excess of $100,000 for each continuing violation.

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TEKO DAS Platform US

10W-to-20W, software-defined remote units (SDRUs)

Upgradable SDRU with up to six-band maximum configuration, 10W-to-20W output power

Multi-carrier optical DAS specifications

Band upgrade option		**TX-7E-BU**		**TRX-8AE-BU**		**TRX-19H-BU**		**TRX-AWX-BU**	
Operating Bands	3GPP band	12/13/14/17		5/26		2/25/70DL		4/10/66/70UL	
	JMA/TEKO code	SMR700+FirstNet		SMR800+AMPS		1900+ AWS-4 DL		AWS-3 full+AWS-4 UL	
Uplink operating frequency band		698–716MHz 776–798MHz		814–849MHz		1850–1915MHz		1695–1780MHz	
Downlink operating frequency band		728–768MHz		859-894MHz		1930–2020MHz		2110–2200MHz	
Downlink Output Power [1] GSM/EDGE/TDMA; EV-DO; CDMA/WCDMA; LTE FDD; 5G NR	**Power-enhanced option**	–	**TX-P20**	–	**TX-P20**	–	**TX-P20**	–	**TX-P20**
	1 carrier	40dBm	43dBm	40dBm	43dBm	40dBm	43dBm	40dBm	43dBm
	2 carriers	37dBm	40dBm	37dBm	40dBm	37dBm	40dBm	37dBm	40dBm
	4 carriers	34dBm	37dBm	34dBm	37dBm	34dBm	37dBm	34dBm	37dBm
	8 carriers	31dBm	34dBm	31dBm	34dBm	31dBm	34dBm	31dBm	34dBm
UL setting 1 (0dB digital attenuation)	Noise Figure	6dB		6dB		5.5dB		5dB	
	IIP3	-17dBm		-17dBm		-17dBm		-17dBm	
UL setting 2 (5dB digital attenuation)	Noise Figure	7dB		7dB		6.5dB		6dB	
	IIP3	-12dBm		-12dBm		-12dBm		-12dBm	
UL setting 3 (10dB digital attenuation)	Noise Figure	10.5dB		10.5dB		10dB		9.5dB	
	IIP3	-7dBm		-7dBm		-7dBm		-7dBm	
UL setting 4 (15dB digital attenuation)	Noise Figure	15dB		15dB		14.5dB		14dB	
	IIP3	-3dBm		-3dBm		-3dBm		-3dBm	
Downlink RF gain, in Master Unit Tx		45dB	48dB	45dB	48dB	45dB	48dB	45dB	48dB
Uplink RF gain, out Master Unit Rx		47dB	47dB	47dB	47dB	47dB	47dB	47dB	47dB
Spurious emissions and intermodulation products		< -13dBm							
Pass band ripple		± 1.5dB							
EVM		< 1% typical							
Total processing delay (each path)/1m fiber		0.5µs							

Remote unit specifications		**T7E8AE19HAWXWXAT**	**T7E8AE19HAWXWXDT**
SDRU configuration capabilities	Band upgrade	TX-7E-BU / TX-8AE-BU / TX-19H-BU / TX-AWX-BU	
	Amp expansion	TX-3A-EXP / TX-4A-EXP	
	Power-enhanced	TX-P20	
Optical	Nominal optical input power	+6dBm up to –4dBm	
	Optical link budget	10dB (AGC)	
	Optical uplink output power	6dBm	
	Operating wavelength	1550.92nm ± 0.4nm	
	Fiber type	Single mode SMR 9/125	
Connectors	Optical connector	SC-APC	
	RF connector	4.3-10(f) compatible with WPS-4F adaptor (JMA Weather Protection System)	
	RF return loss	14dB	
	Filter bypass connectors	6 x SMA(f)	
Cooling and Powering	Cooling	Active (with fans)	
	Power supply	90–264Vac (50-60Hz)	-72 to -36Vdc
	Power consumption	865W [2]	
Environmental	Operating temperature range	-20°C up to +55°C (-4°F up to +131°F) / -40°C (-40°F) upon request	
	Dimensions	approx 1060 x 185 x 273mm (41.73 x 7.28 x 10.75in)	
	Weight	approx 40kg (88.18lb)	
	Enclosure rating	IP66/Type 4 enclosure	

DAS supervision and control

Commands	RF on/off - RF attenuation on each DL and UL path - 4 external control ports
Supervision and alarms	Summary - Power Supply - Optical UL and DL failure - RF UL and DL failure - VSWR - Temperature - Composite output power - 4 external alarm inputs
Remote control	Signalling and supervision over fiber from Master Unit to Remote Unit and vice versa

[1] Downlink Output Power measured at antenna port. GSM/EDGE/TDMA and CDMA compliant with CDMA2000-3GPP2 specifications (C.S0051-0) and FCC regulations, 8.5dB PAR; EV-DO: compliant with CDMA2000/1xEV-DO 3GPP2 specifications (C.S0032-B); WCDMA carriers TM1-64DPCH 60% clipping, 8.5dB PAR, compliant with 3GPP TS 25.143 and FCC regulations; LTE FDD: compliant with 3GPP specifications (TS 36.143) and FCC regulations, 60% clipping, 8.5dB PAR; 5G NR: compliant with 3GPP specifications, 8.5dB PAR

[2] Max configuration. Typical power consumption at maximum rated output power

All values are typical at 25°C (77°F) and 0dBm received optical power unless otherwise specified

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