

# TEKO DAS Platform US

Public safety, single-band, medium-power remote units



**MODELS: TRU9PPWM/AC-WT  
TRU9PPWM/48-WT**

The TRU9PPWM/AC-WT and TRU9PPWM/48-WT single-band, medium-power remote units, operating in the 900MHz Public Safety band, belong to the TEK platform, the most advanced distributed antenna system (DAS) in the industry.

Co-siting kits are available for Public Safety and Commercial remote units co-location when interference issues might occur.

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

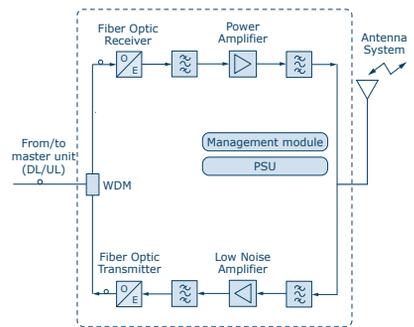
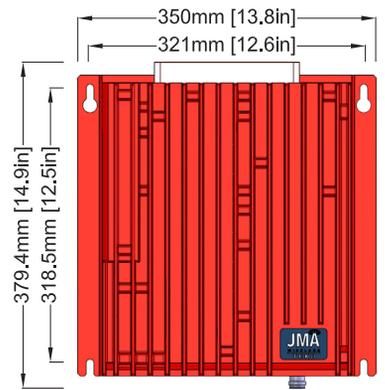
TEKO medium-power remote units have been expressly conceived for high quality of service and easy set-up:

- Automatic Gain Control (AGC) on the optical link with the Master Unit, for constant gain independently from optical losses
- Linear Power Amplifiers expressly designed for IMD reduction over the entire bandwidth
- 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)
- Wavelength Division Multiplexing (WDM) for Tx/Rx communications with the Master Unit over the same optical fiber
- Optical remote link up to 20km (12.4miles)
- New and innovative mechanical design, for easy installation and professional visual impact
- Optional kit providing IP66/Type 4 enclosure rating, for installation in harsh environments.

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

- Single-band – Multi-band,
- Operating frequencies complying with 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.



Block diagram of the single-band public-safety remote unit

**Warning for Commercial bands**

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](http://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.

## Distributed Antenna System with Public Safety, 900MHz, medium-power remote units

Multi-carrier optical DAS specifications			
Uplink operating frequency band		896–902MHz	
Downlink operating frequency band		928–941MHz	
Downlink Output Power <sup>(1)</sup> GSM/EDGE/TDMA/iDEN EV-DO; CDMA/WCDMA; LTE FDD	1 carrier	33dBm	
	2 carriers	30dBm	
	4 carriers	27dBm	
	8 carriers	24dBm	
UL setting 1 (0 dB digital attenuation)	Noise Figure	6dB	
	IIP3	-17dBm	
UL setting 2 (5 dB digital attenuation)	Noise Figure	7dB	
	IIP3	-12dBm	
UL setting 3 (10 dB digital attenuation)	Noise Figure	10.5dB	
	IIP3	-7dBm	
UL setting 4 (15 dB digital attenuation)	Noise Figure	15dB	
	IIP3	-3dBm	
Downlink RF gain, in Master Unit Tx		38dB	
Uplink RF gain, out Master Unit Rx		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		TRU9PPWM/AC-WT	TRU9PPWM/48-WT
Optical	Nominal optical input power	+6dBm up to -4dBm	
	Optical link budget	10dB (AGC)	
	Optical uplink output power	6dBm	
	Operating wavelength	1550nm±5nm	
	Fiber type	Single mode SMR 9/125	
Connectors	Optical connector	SC-APC	
	RF connector	4.3-10 (f)	
	RF return loss	14dB	
Cooling and Powering	Cooling	Passive (natural convection)	
	Power supply	85–264Vac (50-60Hz)	-72 to -36Vdc
	Power consumption	60W <sup>(2)</sup>	
Environmental	Operating temperature range	-40°C to +55°C (-40°F to +131°F)	
	Dimensions	approx 379.4 x 350 x 102mm (14.94 x 13.78 x 4.02in) max volume - heat sinks and connectors included	
	Weight	approx 13kg (28.7lb)	
	Enclosure rating	IP32 (box) IP66/Type 4 enclosure with optional protection kit (FUZE Mount Kit Enclosures also available)	
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 - Temperature - Composite output power - 4 external alarm inputs	
Remote control		Signalling and supervision over fiber from Master Unit to Remote Unit and vice versa	
<sup>(1)</sup> 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; iDEN: compliant with Motorola iDEN®; 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.			
<sup>(2)</sup> Typical power consumption at rated output power			
All values are typical at 25°C (77°F) and 0dBm received optical power unless otherwise specified			