



PHOENIX

COMPACT
DATA LINK
SYSTEM



COMPACT DATA LINK SYSTEM

CP Tech's new generation of advanced datalink solution - the Phoenix constitutes a pinnacle of excellence offering high-end performance in ever changing operational environments, combined with leading proprietary and combat proven technologies.

The Phoenix is a leading SDR (Software Defined Radio) system designed to provide high performance data transmission. The Phoenix enables full duplex with MIMO capabilities. Advanced error correction techniques and algorithms were implemented to improve link robustness and reliability in challenging operational scenarios. Our proprietary AiMo™ system, CP Tech's adaptive modem, provides the user with an adaptive modem operating either single carrier or multi carrier modulation as required. The Phoenix is equipped with inbuilt 2 proprietary HD video encoders allowing concurrent encoding, decoding and transmission of multiple HD video streams.

Who We Are

CP Technologies designs, fabricates and integrates standard and customized high-performance computing platforms and LCD monitors for military, industry, and commercial applications.

Using COTS components, CP Technologies provides solutions for customers who need reliable systems that will operate in a variety of harsh conditions and who require revision control and hardware consistency for multi-year programs.

CP Technologies is an ITAR Registered and ISO 9001:2015 Certified business that has been operating in Southern California for over twenty years.

Assembled in the USA
ISO 9001:2015 Certified
ITAR Registered

CP Technologies
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TECH SPECS



MAIN PRODUCT FEATURES

WAVEFORM	GMSK / OFDM BPSK / QPSK / XQAM	AiMo™, Single carrier /Multi carrier
FREQUENCY RANGE	S-Band: 2.15Ghz-2.5Ghz C-Band:4.4GHz-5.9GHz	
DATA RATE	Up to 40 Mbps	Pending modulation & range requirements
CHANNEL TYPE	Full-Duplex	Flexible TDD
ANTENNA CONFIG	2x2	MiMo, MRC Optional
COMSEC	AES.256 - CBC algorithm	
TRANSEC	Frequency Hopping: 250 Hops/sec Or DSSS	
STANDARDIZATION	MIL-STD-461 MIL-STD-810	Depending on configuration

DATA RATES AND RECEIVER SENSITIVITY

	MODULATION	DNL RATE	UPL RATE	SENSITIVITY	BW
STANDARD RATE	GMSK	2.0 Mbps	100 Kbps	-100dBm	3.8MHz-
	OFDM-BPSK	2.0 Mbps	100 Kbps	-98dBm	4.0MHz
MEDIUM RATE	GMSK	4.0 Mbps	200 Kbps	-97dBm	7.7MHz
	OFDM-BPSK	4.0 Mbps	200 Kbps	-95dBm	8.0MHz
	OFDM-QPSK	4.0 Mbps	200 Kbps	-95dBm	4.0MHz
HIGH RATE	GMSK	8.0 Mbps	200 Kbps	-93dBm	14.9MHz
	OFDM-BPSK	8.0 Mbps	200 Kbps	-92dBm	16MHz
	OFDM-QPSK	8.0 Mbps	200 Kbps	-92dBm	8MHz
ULTRA HIGH RATE	GMSK	10.0 Mbps	300 Kbps	-92dBm	14.9MHz
	OFDM-QPSK	16.0 Mbps	300 Kbps	-89dBm	16MHz
	OFDM-16QAM	16.0 Mbps	300 Kbps	-86dBm	8MHz
TELEMETRY ONLY	GMSK	125 Kbps	125 Kbps	-115dBm	250KHz

TECH SPECS

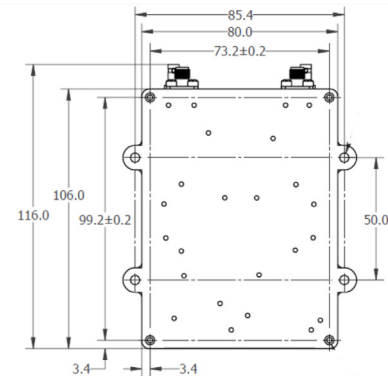


MOBILE UNIT

TRANSMISSION POWER	2 ports of: 33dBm31dBm@C-Band
VIDEO COMPRESSION	SD/HD H.264
INPUT POWER	Input Power 9-54 VDC (28VDC Nominal)
POWER CONSUMPTION	Typical: 30W Full scale operation: up to 40W
WEIGHT	300gr (10.6oz)
DIMENSIONS	85.4mm x 116mm (3.362" x 4.567")
PORTS	2 Analog video inputs composite video 2 HD - SDI inputs 2 Ethernet 2 independent RF chains & ports Multiple RS422 or RS232 interface

The Phoenix Mobile Unit is a secured, high-performance, data link unit offering MANET capabilities and MIMO architecture.

Simple integration process make the Phoenix an ideal data-link solution for aerial, land or marine platforms.

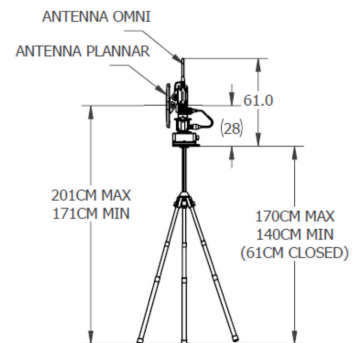


REMOTE VIDEO UNIT

TRANSMISSION POWER	30dBm31dBm@C-Band
POWER CONSUMPTION	<8W
INPUT POWER	18-36VDC
WEIGHT	~10kg (22lbs)
DIMENSIONS	Height: 171-201 cm (67.32" - 79.13") Base diameter: <178cm (70")
FEATURES	Ethernet port 10/100MB Planar & Omni antennas Powered by external power source or battery MR2716 Lithium Ion Rechargeable battery pack

The Remote Video Unit (RVU) is a light weight, ruggedized IP-67 communication system enabling receipt of video transmission from the MobU in addition to the communication with the StU. The RVU supports multiple transmission of data to different end users and offers quick deployment.

The RVU kit includes: RVU, two antennas (omni and directional), easy to deploy tripod, ruggedized tablet including CP Tech video player, batteries, charger, cable sets and an optional auto-tracking system all in a comfortable backpack.

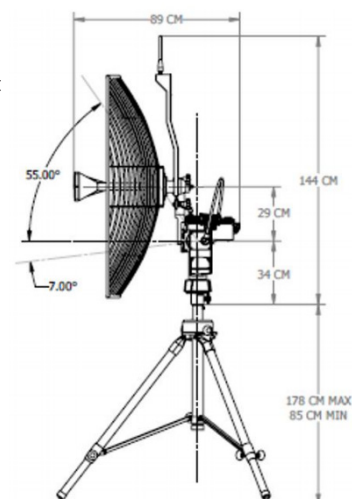


STATION UNIT - LONG RANGE

TRANSMISSION POWER	33dBm31dBm@C-Band
POWER CONSUMPTION	≤ 250W
INPUT POWER	18-36VDC
WEIGHT	30-35kg (66-77lbs)
DIMENSIONS	Base diameter: 185cm max (72.83") Height: ~200cm (78.74")
FEATURES	Ethernet port 10/100MB (Control & Data) Multiple RS422 or RS232 Optional Video Interface Dish & Omni antennas

A quick-to-deploy Station Unit (StU) establishes a secured datalink in less than 10 min. The StU supports multiple antennas enabling high performance in both long, medium and short range operations.

The StU includes the Phoenix, a 2 axis autotracking pedestal system, directional dish and Omni antennas, GPS antenna, tripod and cables set.



TECH SPECS

CP Technologies' transceivers provide full duplex digital communication with advance digital techniques enabling high data link performance with emphasis on sensitivity, selectivity, immunity and reliable communication in multipath environments

SYSTEM TECHNOLOGY

The unique open architecture design enables full duplex, MIMO capabilities and an advanced Error correction Turbo Convolution Code (TCC) was implemented to improve link design, high fade margin for long range links while enabling excellent performance.

FULL SDR RADIO

The advanced SDR radio, based on Xilinx MPSOC, and flexible software ICD enables costumer application hosting - full control over SDR architecture.

ANTENNA SWITCHING

Manual or automatic antenna switching is based on BER values algorithm enables a fast, onboard switch with no data lost.

ENCRYPTION

The AES256 encryption algorithm implementation enables high security to the streamed data. Monitoring and managing user Ethernet UDP traffic providing capability of: black & white list, priority, dynamic allocation and allocation sharing.

HIGH THROUGHPUT

The unique proprietary modulations enables high throughput in various LOS and BLOS scenarios of up to 40Mbps.

TRANSMISSION SECURITY

Fixed Frequency Mode or Frequency Hopping (FH) technique to counter hostile jammers. Operation mode selected by the user.

ALGORITHMS

Meta data integration, ROI: low bitrate compression, frequency collision avoidance.

ADAPTIVE MODEM - AiMo

Flexible modulations OFDM & GMSK, advance PEC algorithms (Turbo Codes, Polar Codes), adaptive node modulation (Various bitrates), precise range measurement, encryption, spreading DSSS)

VIDEO COMPRESSION

The MobU (Mobile Unit) includes advanced, low latency, proprietary video compression on board. Each of the 2 video input streams have 3 outputs. Each output is compressed separately and enables the user full control.

QUESTIONS?

Reach out to us at
combatproven.tech
or call 858.571.4330

ENGINEERED TO YOUR SPECIFICATIONS

- In-house engineering department
- Design and build of rapid prototypes. Experience with solving difficult customer application problems through knowledge of the industry and custom system design and manufacturing capability
- Our Engineers use Solid Works 3D CAD modeling software for mechanical design and thermal simulation
- Design experience with MIL-STD-167, MIL-STD-461, MIL-STD-810, and MIL-S-901, in addition to FCC, UL, CE, and country specific agency requirements

REVISION CONTROL & CONFIGURATION MANAGEMENT

- Our Program Managers will assure your products are revision controlled for the life of the program
- Configuration Management to assure TAA Compliance and system compatibility
- One part number for life of the program
- Counterfeit and obsolescence management

FACILITY AND TEST

- All integration work is performed in a state-of-the-art, ESD-controlled facility
- Our facility has 23,000 sqft and has dedicated 12,000 sqft to manufacturing and 3,000 sqft to engineering
- Operate to anti-static standard ANSI/ESD S20.20-2007 and electronics assembly standard IPC-A-610, Revision E-2010

QUALITY COUNTS

- ISO 9001:2015 Certified
- 100% system inspection before shipment
- All integrated systems undergo a minimum 24-hour system test and burn-in before shipment to the customer
- Assistance with 3rd party verification of system specifications
- 5-year warranty on all servers and 3-year warranty on LCD monitor products
- TAA compliant
- Built in the USA

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