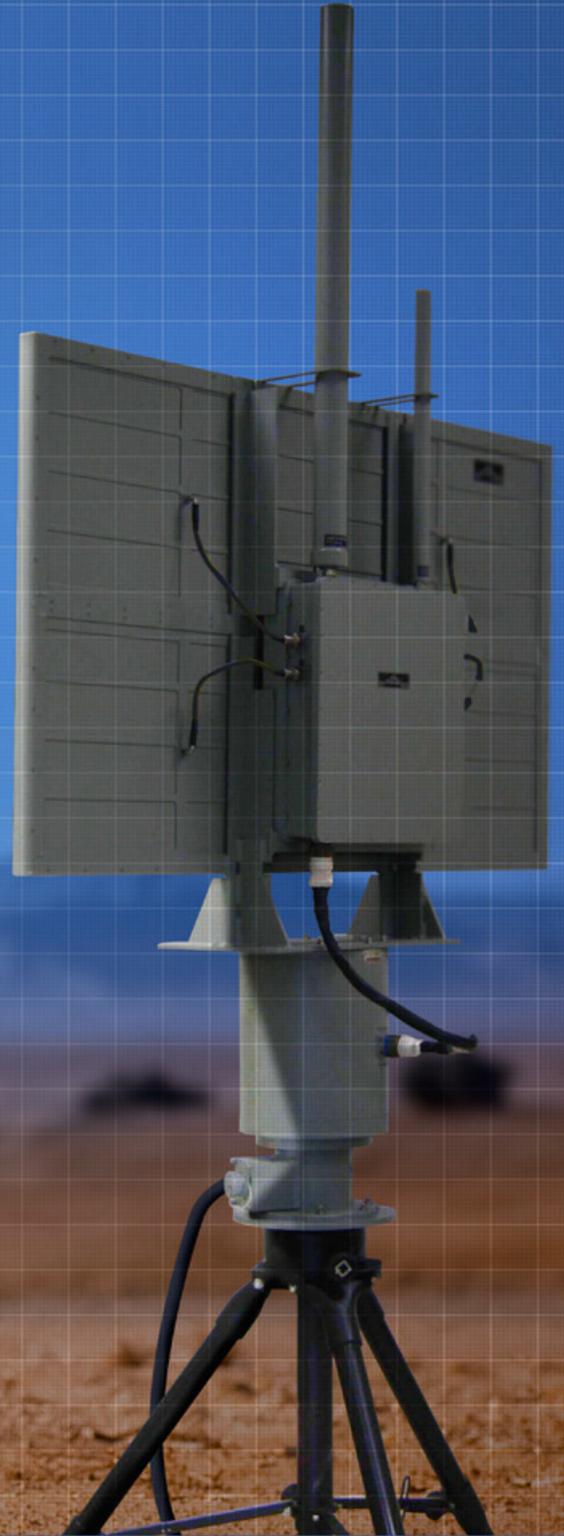




Will Connect You

Innovation and Excellence in RF & Microwave



Data Link Systems

One system-endless possibilities

IMC designed and developed a complete data link solution for a range of up to 250 km Line Of Sight (LOS) with automatic antenna tracking and a bi-directional digital video and telemetry link. IMC's data link system supports the following capabilities and functionalities:

- UHF, L, S and C frequency bands, fully sensitized
- MPEG4 / H.264 video compression with low latency
- HD or SD video quality. (Transmit multiple video channels in parallel)
- Monopulse or GSP tracking
- AES encryption
- Spread spectrum or Frequency hopping for anti-jamming
- Relay mode for extending transmission range beyond LOS

The data link system is used for aerial, ground and maritime communication applications such as UAV/UGS, flight test telemetry, ground to ground communication, air crafts communication, etc'.



Command & Surveillance Data Link

The CSDL data link family (Command & Surveillance Data Link) is one of IMC's innovative communication systems. The system is designed for military, civilian and paramilitary applications for an operational range of up to 250 km. Its modular and scalable design enables simple adaptation to a wide range of platforms such as unmanned vehicles, manned vehicle, ground vehicles and sea vessels, while providing the most competitive and cost-effective features.

The CSDL system can be customized based on customer operational requirements and needs. The CSDL has its own GPS independent direction and range measurements, which are critical in harsh condition scenarios of GPS jamming or link loss.

CSDL system Key Features

- Ability to extended range beyond LOS using relay.
- Supports multiplexing of two videos input and two or more data inputs.
- Fully configurable with a user-friendly application. (bitrate, frequency, output power, etc')
- Supports remote configuration from ground to air.
- Automatic tracking using Monopulse or GPS
- Lightweight Tripod and highly Compact Rotating Pedestal
- The RF modem is attached to the Directional antenna in the GDT, improving reliability and RF power loss.
- Miniature Video Portable Receiver for short range video receiving



System composition

- Airborne data Terminal (ADT)
- Ground data Terminal (GDT)
- Miniature Video Portable Receiver (MVRS)

Interfaces

- Ethernet for IP based input on ADT/GDT
- Video in: PAL,NTCS, HD-SDI, HDMI
- RS-422 or RS232 for data input or output

Capability Range

| Specification | Range |
|----------------------------|-------------------------|
| Operation Range | Up 250 km (LOS) |
| Primary Frequency band | L, S and C band |
| Backup uplink (optional) | UHF |
| Video input | SD or HD (720p / 1080p) |
| Video compression | H.264 or MPEG 4 |
| Video Latency | < 100ms |
| COMSEC | AES: 128/256 bit keys |
| Telemetry | Up to 1.4Mbits |
| Anti-Jamming | supported |
| Tracking | Manual, monopulse, GPS |
| Forwarded Error Correction | Supported |
| Environmental conditions | Mil Std 810F / 461E |

Mini Tactical Command & Surveillance Data Link

The MTCSDL (Mini Tactical Command & Surveillance Data Link) is a low cost, low power consumption, lightweight, wideband, advanced digital data link system. The system is designed for a variety of applications such as mini and small UAV's, surveillance helicopters and UGV's.

The MTCSDL is a digital system that provides full duplex or half duplex (TDD) link supporting forward error correction, AES encryption and Anti Jamming capabilities in uplink and the downlink channels. The link includes a lightweight (< 200gr) and low power consumption transceiver required for small unmanned aerial vehicles. The GDT (Ground Data Terminal) includes a patch antenna, Omni antenna & modem all in one box easy for carrying and quick setup. The system's uplink channel is used for command & control and the downlink channel for transmitting video, telemetry and other optional input data.

MTCSDL system Key Features

- Low cost, Small, Lightweight and low power consumption
- Support multiplexing of two videos input and two or more data inputs.
- GPS independent and very accurate Direction and Range measurement.
- Fully configurable with a user-friendly application. (bitrate, frequency, output power, etc')
- Support remote configuration from ground to air.
- Lightweight Tripod and highly Compact Rotating Pedestal
- The RF modem is attached to the Directional antenna in the GDT, improving reliability and RF power loss.
- Miniature Video Portable Receiver for short range video receiving



Will Connect You

System composition

- Airborne data Terminal (ADT)
- Ground data Terminal (GDT)
- Miniature Video Portable Receiver (MVRS)

Interfaces

- Ethernet for IP based input on ADT/GDT
- Video in: PAL,NTCS, HD-SDI, HDMI
- RS-422 or RS232 for data input or output



Capability Range

| Specification | Range |
|----------------------------|--------------------------------|
| Operation Range* | 10km to 100km |
| Primary Frequency band | L, S and C band |
| Link mode** | Full duplex, half duplex (TDD) |
| Backup uplink (optional) | UHF |
| Video input | SD or HD (720p / 1080p) |
| Video compression | H.264 or MPEG 4 |
| Video Latency | < 100ms |
| COMSEC | AES: 128/256 bit keys |
| Telemetry | Up to 1.4Mbits |
| Anti-Jamming | supported |
| Tracking | Manual, monopulse, GPS |
| Forwarded Error Correction | Supported |
| Environmental conditions | Mil Std 810F / 461E |
| Weight | <200gr |

*Depends on the transmitter power and ground antenna gain

**In case of full duplex an additional diplexer might be required



Portable Telemetry Ground Station

The PTGS system is a lightweight, portable, two axis (Elevation and Azimuth) tracking & two telemetry and video receivers solution, designed for a variety of medium range applications such as aircraft flight tests and missile telemetry.

The PTGS series support different types of antennas, rotary joint, slip rings, telemetry and video receivers customized based on customer requirements and mission needs.

PTGS system Key Features

- One or Two axis tracking capabilities
- Video and Telemetry lightweight 2 channel receivers. Attached to the back of the directional antenna saving the need for rotary joint.
- High speed pedestal rotation
- Working with 3rd party telemetry receiver is optional
- Tracking receiver (1 or 2 channels) integrated into the RF unit in the back of the antenna
- Short range antenna for acquisition is optional
- Tracking control unit for closing the auto-track loop
- Compact directional flat panel antenna
- Easy operating through a user friendly application running on a standard computer (Laptop, Desktop, rackable PC)
- Video camera is optional
- Rugged carrying case is optional



Will Connect You

System composition

- Directional flat panel tracking antenna with two axis tracking channels
- Up to two telemetry and video receivers channels
- Tracking receiver
- 2 axis tracking pedestal
- Tripod (up to 6 meters)
- GUI user friendly application for monitoring and control

Interfaces

- Ethernet for IP based output
- RS-422,RS232 or Ethernet for system configuration

Capability Range

| Specification | Range |
|----------------------------|----------------------------------------|
| Polarization | RHCP & LHCP |
| Primary Frequency band | L, S and C band |
| Pedestal | Elevation over Azimuth or azimuth only |
| Azimuth Range | 360°xN |
| Elevation range | Up to (-5° to 180°) |
| Outputs | Ethernet or RS422 |
| Tracking (optional) | Manual, monopulse, GPS and others |
| Forwarded Error Correction | Supported |
| Environmental conditions | Mil Std 810F / 461E |



IMC Industries is a worldwide leading provider specializing in state-of-the-art RF modules, microwave components and data link communication systems for defense, HLS and civilian applications.

IMC's products supply cutting-edge solutions for aerospace, ground and maritime platforms; each tailor-made configuration is suited for MIL-STD requirements and a variety of client needs.



IMC microwave industries ltd. 6 Nahshon st. Petach Tikva 4927795 Israel
T+972-3-9300464 F+972-3-934056 M imc@imc-mw.co.il W www.imc-mw.com