What’s new in Electronic News Gathering in 2016!

Bidirectional Networks
Microwave/Satellite
Silvus • Vislink • MAVERICK • On Call Communications

Carrier ID (CID) Update

Frontline Innovations

Frontline Vehicles
Multi-Media Journalist (MMJ) • Weather Chasers

2016 Frontline Vehicles on Display
Bidirectional Network Solutions

Microwave

Silvus - BAS & ISM band IP mesh MN-MIMO autonomous radios

The Power of Bi-Directional Wireless Connectivity

In partnership with Frontline and JVC, at this year’s NAB we will demonstrate a seamless wireless IP mesh across a range of systems on the Frontline, JVC and Silvus booths (C8649):

- ENG vehicles
- Wireless cameras – both traditional HD-SDI and new IP streaming configurations
- UAVs
- Covert backpacks

We will show real-world solutions for newsgathering and sports / event coverage, featuring:

- Ultra low latency, broadcast quality video contribution
- Bi-Directional intercom / audio communications
- User IP data / LAN extension to-the-field
- Zero-Delay camera remote control / paint and shade
- Return video

Best of all, we will debut the SC4200, the world’s most technologically advanced MIMO radio for video, audio and data contribution:

- 8x Tx output power with beamforming for vastly superior range and coverage area
- User Data Rates up to 100+Mbps UDP
- Integrated bidirectional audio communications
- Up to 128GB of onboard storage
Bidirectional Network Solutions

Microwave

Vislink - NewsNet

Introducing vislinknews.net

Multiple Collection Devices Feeding Into One Base Station – “ENG SFN”

Functionality of a vislinknews.net ENG Network

Capability at a Glance

- Live remote video pick up in parallel and concurrent with IP traffic
- Multiple ENG assets connected at the same time (time domain) on the same BAS channel
- Enables expanded field communications (e.g. point-to-point VoIP links and teleprompt)
- Remote access to newsroom system (LAN connectivity to the station’s network)
- High capacity file based workflows support in the field
- All of this semi-automated as an example with:
  - The live video getting the highest Quality of Service (QOS) followed directly by the
    communications (but at much lower voice-only bandwidth) and the rest on a normal
    LAN/IP “best effort” setting
- Efficient leverage of your existing investment in RF infrastructure
- Greatly enhances News Gathering workflow efficiency 4:1 (on average)
Bidirectional Network Solutions

Satellite

Network Innovations - MAVERICK VSAT Ku HD streaming service

- Most efficient modulation on the market (MxDMA)
- Flexible service plans (4, 5, 6Mbps, etc. return/upstreams)
- Guaranteed bit rate service (rain fade no/little factor due to MxDMA)
- Group ("pooled") billing and shared GB amongst fleet
- No booking or modem reboot between contended/Best-effort & non-contended/Streaming
- Teleport controlled for little truck-operator intervention (power, modulation, etc. controlled by hub)
- No new CapEx needed (retrofitting allowed) for "certified" driveaways
  - Customer can still use their current Antenna, Amplifier, and LNB
- Eliminates need to upgrade DVB Modulator for DVB-CID compliance
- Dual satellites (G28, H1) for CONUS (adding more) for multiple verticals
- Vast expertise with Bonded-Cellular encoders (LiveU, Dejero, TVU, etc.) via Maverick
- International coverage (EMEA, APAC hubs & satellite coverage), with LatAm & Africa coming soon
- Private backhauls with majors already in place (FOX, NBC, ABC, CNN, etc.)
- Existing clients on Maverick (CNN, BBC, SKY, FOX, etc.)
Dynamic Network Concept

All sites can share the total bandwidth and can burst to pre-set rates (PIR) while still having a guaranteed bandwidth (CIR). This allows each site to dynamically access unused bandwidth of any of the other 6 sites in a customer-determined priority order.

Traffic destined for the public Internet or to the home office is routed through the Teleport to either the public Network or down private fiber networks to the Home office.

Traffic between sites is tunneled at the Teleport Hub and never enters the Public Internet, providing a completely closed Network.

Site 1:
CIR 3 Mbps / 1 Mbps
FIR 7.5 Mbps / 7 Mbps
Priority 1

Site 2:
CIR 3 Mbps / 1 Mbps
FIR 7.5 Mbps / 7 Mbps
Priority 2

Site 3:
CIR 1 Mbps / 3 Mbps
FIR 7.5 Mbps / 7 Mbps
Priority 3

Site 4:
CIR 1 Mbps / 3 Mbps
FIR 7.5 Mbps / 7 Mbps
Priority 3

Site 5:
CIR 512 kbps / 512 kbps
FIR 7.5 Mbps / 7 Mbps
Priority 4

Site 6:
CIR 512 kbps / 512 kbps
FIR 7.5 Mbps / 7 Mbps
Priority 5

Site 7:
CIR 512 kbps / 512 kbps
FIR 7.5 Mbps / 7 Mbps
Priority 5

Private Back-Haul service can be delivered to provide a completely closed and static path back to home office.

MAVERICK SERVICE
INFORMATION

NEWTEC MxDMA
AWESOMENESS
**On-Call Communications – QuickSPOT IP Satellite Network**

On Call Communications is the satellite solutions provider specializing in creative SNG solutions for the news media. Our QuickSPOT IP Satellite Network was designed to help you increase ratings with the most extensive live coverage in your market.

- Immediately available satellite access for breaking news or to backup cellular and microwave
- Virtually eliminate requirements for technical expertise in the field and let photographers operate your automated satellite systems
- Flexible, IP based solutions that let you use existing equipment or streaming video applications to deliver high quality video with minimal additional investment.

**FCC Deadline for Carrier ID (CID) extended**

If you haven't already heard, the deadline for implementing DVB-CID (aka ATIS) in your DSNGs has been pushed out to September 3rd, 2017. There is still time to consult with Frontline before sinking unbudgeted dollars into a hasty solution that may not be a good fit with your other critical RF equipment.

Frontline knows that every equipment situation is unique, so at this time there is no need to purchase a generic or costly rebranded solution.

Recently introduced systems may appear to solve your issues, but it will cost more in the long run, and at the same time downgrade your transmit chain. Before making your decision, talk to the experts at Frontline, you may find that simply upgrading your software or returning your current modulator to be upgraded may be the best solution for you... and your budget!

When you are ready to discuss cost effective solutions for next year's budget, or if you just need a better understanding what this change entails, rest assured that Frontline has you covered. Give us a call at (727) 573-0400 today.

Full details of the extension can be found here, or scan the QR code:

Frontline's Nissan NV
The #1 Selling Broadcast Vehicle THREE Years in a Row!

The Award Winning Frontline VIP™ Premium Power System
Over 200 Frontline VIP™ power systems in use today!

Frontline VIP™ premium power system provides up to 8KW of power without the noise, exhaust, or fuel consumption associated with conventional generators. The Frontline VIP™ System also provides power for 4-6 hours of silent ENG operations without the engine running.

Frontline Exclusive FastMast

Raises a 42’ Mast 4x faster than competitive systems!

Frontline's exclusive FastMast utilizes a 24V high capacity/high volume compressor and custom regulator/water separator system to provide the fastest mast deploy times in the industry.
Frontline/AvL Technologies Ka/Ku-Band Dual Feed Satellite

Frontline introduced the industry’s first Ka/Ku-Band Dual Feed Satellite Antenna at NAB 2015. Designed by AvL Technologies in a collaborative effort with Frontline Communications, this state-of-the-art technology enables a new dual-band capability on the ViaSat network, allowing the user to safely switch from Ka-band to Ku-band with a single switch function on the antenna controller from inside the vehicle. At the push of a button operators can select either IP delivery using the ViaSat Ka-band service or legacy DVBS delivery via their existing infrastructure.

This innovation is significant for broadcasters that commonly share live content with other stations and networks using Ku-band. Prior Ka/Ku-band antennas required the user to manually switch out the different feeds while on the roof of the vehicle. The antenna system includes a 1.2m reflector and AvL’s AAQ antenna controller which utilizes an automatic slide mechanism to precisely position the feed as needed.

Frontline remains fully committed to developing new technologies for broadcasters. If you’d like more information on this system, please don’t hesitate to call us.

Frontline’s Live & Drive Dual Dash Camera System

The Frontline Live & Drive Camera system employs 2 dash mounted POV cameras: one orientated out the windshield showing the driver’s view, the other on the talent in the passenger seat. One Bi-Color LED light is placed at the talent position which allows lighting adjustment for intensity as well as color temperature. Cameras are routed to two dash mounted monitors, one for program and one showing the talent camera to allow for shot framing. Clean switching is controlled through a handheld pistol grip controller so the air talent can hold framing and not look away from the shot when switching. Additional cameras can be added to the system, including a pan tilt controllable roof/mast camera shot.
MMJ News Gathering Vehicles

*Frontline's Chevrolet Traverse MMJ is on display in TVU's booth # SU4405*

MMJ Broadcast Vehicles are yet another tool in broadcaster's newsgathering toolboxes and can be built on most chassis and include various levels of equipment and integration. These vehicles are designed to be used by multimedia journalist for quick deployment and news reporting and transmission. Most MMJ Vehicles utilize bonded cell technology but can be combined with microwave and even Ku and Ka satellite capabilities. Frontline’s Dual Dash Live and Drive Camera Systems can also be installed to allow two person crews to transmit while driving.

- Available on full and small SUV and Van chassis
- Frontline VIP™ premium power system
- Frontline's innovative Smart Charge System™: intelligent parallel technology maintains and protects batteries from being depleted or overcharged
- AvL 1.2m Ka/Ku dual feed auto select antenna
- TVU MLink Multi-cellular ready

**Key Vehicle Features:**

- Frontline Live & Drive Dash Cam System for OTM live broadcasting with custom control panel located between driver and passenger seats. Lease-friendly conversion package with minimal chassis modifications is also available.

- Live streaming of either talent or forward facing drive cameras while on the move, or from any other source including playout from NLE via the TVU bonded cellular encoder and integrated cellular router. Talent/drive cameras can be *clean switched on the air* via a handheld controller. Talent position includes IP and IFB connections, variable intensity/color temperature light, mic mixer, and talent camera and program monitors. Increase bandwidth on the pause via the exede Ka system which allows up to an additional 10Mbps. An AVL 1.2m dual band automated Ka/Ku SLIDE DSNG/VSAT antenna allows for traditional Ku DSNG transmission in worst case scenarios where cellular access is unavailable and inclement weather precludes Ka band connectivity.
Weather Chaser Vehicles

Frontline Communications’ heavy-duty Weather Chaser vehicles are built to perform in severe weather conditions so you can keep your community safe and informed. These customized vehicles can be outfitted with rugged vehicle accessories, up to two equipment racks, and utilize a power system by a 1-3KW inverter with alternator power from the vehicle engine. Large rear storage capacity and available custom options such as camera lockers and tripod tubes make this vehicle a go anywhere-broadcast anything live news machine.

- Available on full and small SUV and Van chassis
- Frontline VIP™ premium power system
- Bonded cellular, Ka or Ku-IP satellite and microwave systems available
- On-board Weather Stations
- Frontline Live & Drive 2 or 3-camera system
- Lease-friendly conversion package available, minimizes modifications to chassis

- Key Vehicle Features: Frontline’s Weather Chaser vehicles can be customized to include bonded cellular, Ka or Ku-IP satellite and microwave systems, as well as all of the rugged chassis accessories such as lift kits, upgraded wheels and tires, brush guards, and much more.
Frontline Vehicles on Display

The Weather Channel
Ku-IP DSNG-CNG Suburban 1500

Frontline is proud to have been selected by The Weather Channel, the original and leading authority on weather reporting, to design, build, and deliver five new Weather Chasers.

The Weather Channel Suburban is equipped with an On Call Ku-IP 1.2m satellite system, industry first Dual Live U LU-700/Live U Extender w/ touch screen CNG system, Black Magic 12x12 router based video system, Lectrosonics IFB, Frontline Dual Dash Cam System, Roof Cam, Weather Station, Whelen Pioneer LED Scene Lighting System and more!
• Industry’s ONLY 5yr/100,000 mile bumper-to-bumper chassis warranty
• Award-winning Frontline VIP™ 8KW power system
• Rugged full-frame 9,900 GVWR Nissan Titan V8, 317 HP, Torque: 385-ft-lb.@3,400rpm,
• Factory high roof with industry-leading 72 in. interior height
• Frontline exclusive FastMast
• Two-position I/O door
• Frontline LowPro design with 42 ft. Will-Burt LowStow Mast, OAH: 10 ft. 4 in.
• Custom entry step for Operations area
• Overhead dimmable swivel light strips for front seat positions
• Frontline Live & Drive clean switch 3-camera system: dual dash + mast mount PTZ camera system with Talent-Control PTZ™
• DOT-tested swivel passenger seat
• Additional swivel half rack (12 RUs) behind driver's seat
• Communications console between driver/passenger seats with AC/DC power and USB
• Adjustable 120% slide-out storage shelves with separate roll-out camera drawer, silks, and tripod storage in rear area
- Industry’s ONLY 5yr/100,000 miles bumper-to-bumper chassis warranty
- Award-winning Frontline VIP™ 8KW Premium power system
- Rugged full-frame 9,900 GVWR Nissan Titan V8, 317 HP, Torque: 385-ft-lb.@3,400rpm
- Factory high roof with industry-leading 72 in. interior height
- Frontline exclusive FastMast, raises a 42 ft. mast 4x faster than competitive systems
- All-LED lighting package
- Quigley 4x4 conversion, does not increase the height of the vehicle
- Frontline DSNG package: Hydraulic jacks, 5KW inverter, 50a shore power, and waveguide dehydrator
- Heavy-duty extended roof rack with full 1” thick aluminum DSNG antenna mounting plate
- Console rack for additional equipment and interior I/O
- DOT-tested swivel passenger seat
- Custom storage cabinets with LED lighting
- Frontline Ku package with AvL 1.4m antenna and auto-locate controller
- 120% slide-out storage shelf system in rear area
**WTVD-TV**
**DSNG/ENG Transit T-350 MR**

- Award-winning Frontline VIP™ 8KW Premium power system
- Frontline exclusive *FastMast*, raises a 42 ft. mast 4x faster than competitive systems
- 148 in. wheelbase, 9,500 lb. GVWR
- Mid Height Roof with 68.5 in. interior headroom
- AvL 1.2m Ka/Ku dual feed auto select antenna – the industry’s *first Ka-Ku switchable feed antenna system*
- Frontline LowPro design with 42 ft. Will-Burt Mast: OAH 10 ft. 2 in.
- Custom aluminum overhead storage cabinets
- Frontline DSNG package: Hydraulic jacks, 5KW inverter, 50a shore power, and waveguide dehydrator
- Heavy-duty extended roof rack with full 1 in. thick aluminum DSNG antenna mounting plate
- 120% slide-out storage shelf system with silks and tripod storage in rear area
- Additional swivel half rack (12 RUs) behind driver’s seat
- Will-Burt Position-It 150 lb. capacity mast top positioner with 2RU controller
- Silvus Bidirectional Microwave radio – Autonomous BAS band+ MN-MIMO COFDM self-forming/self-healing MESH IP radio
- Dejero VSet
Frontline Trucks Displayed in Vendor Booths

KXTV-TV
ENG Transit T-350 MR

- Frontline VIP Premium Power System
- 48’ Frontline Fast Mast
- Ensemble Designs NXT-430 based video system
- 2Ghz MRC Microwave System
- WTI 720HD Mast Camera System

Frontline Demo
MMJ Traverse

- Frontline VIP™ Premium Power System
- AvL 1.2m Ka/Ku dual feed auto select antenna
- TVU MLink Multi-cellular ready system
- Frontline Live & Drive Dual Dash Cam for OTM live broadcasting with custom control panel located between driver and passenger seats
Frontline takes great pride and goes to great lengths to ensure that Frontline vehicles have been engineered and tested to the highest standards for safety and reliability. To that end, Frontline has established goals and met or exceeded many of the industry's highest engineering and manufacturing benchmarks. When we say we are ISO 9001 certified, it doesn't mean that we "build to ISO specifications" like some competitors claim, it means we have undertaken the engineering and administrative efforts and have actually been certified and can provide our ISO certificate. When we say we are a Sprinter Master Upfitter, we mean we have actually been approved by Mercedes-Benz and can show the documentation given to us by Mercedes-Benz. When we say we have a patent pending on a proprietary design, it means we formed the concept, developed a prototype, beta tested our product, and applied for the patent based on our intellectual property and can show that documentation. With safety and reliability on the line for your vehicles, rest assured that Frontline engineering practices and standards are unrivaled in the industry!
Stay in touch with the latest broadcast vehicle innovations:

From Left: Jason Brown, Jonathan Sherr, Tracy Brink, Bob King, Andy Callaway, Stephen Williamson
Not shown: Paul Tanofsky, Jeff Steele, Bryan Morgan, Rick Motkowicz

On behalf of all Frontline’s employees, thank you for your support.

For additional information, please contact Frontline at (727) 573-0400
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