



Alster News



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Digital Whitepaper

Digital radio systems operate differently than legacy analog systems.

New Tech/New Tuning

Although digital radio alignments are similar to analog radio alignments, digital radios require more precise alignment to achieve optimum performance and must be verified for digital modulation performance.

Proper alignment can improve performance to maximize and deliver the high performance that digital technology was designed to provide. Improper alignments can cause degraded digital modulation accuracy, significantly impacting the receiver's ability to recover digital data.

Extensive lab testing using recorded digital radio RF

transmitter parameters shows that modulation alignments of the radio's transmitter parameters can positively or negatively affect performance of another digital radio's receiver.

In some instances, this can affect range to the same extent as a 75-percent reduction in power. With an understanding of digital radio operation and alignment, proper setting of audio filter parameters and the use of accurate deviation meters can significantly improve the performance of those radios.

Conversely, using inaccurate deviation meters compounded by improper filter settings and lack of knowledge of meter specifications and operation, can

dramatically and negatively impact digital radio performance.

Most RF professionals are aware of coverage studies that are related to transmit power variations. Assuming all things are equal except for power level, the coverage area becomes smaller as the radio's transmitter power level decreases. This is expected and would hold true for both analog and digital systems. However, with digital systems, additional factors can cause issues with coverage, in particular the quality of the transmitted digital signal.

Follow the link to our website to download the complete whitepaper.

<http://www.alster.com/videos-white-papers/> Ω



Pyramid SVR-P255 Repeater



PYRAMID COMMUNICATIONS

SVR-P255 Repeater

The SVR-P255 is the latest generation simplex vehicular repeater from Pyramid Communications that is fully compliant with the APCO Project 25 Phase I Digital Common Air Interface (CAI) protocol.

The all new P25 Smart-Trunking™ feature works with EFJohnson's KENWOOD Viking VP900 portable and VM900 mobile radio to create a seamless trunking handshake between the mobile radio

network and SVR-P255 user. This ensures that portable radio users outside the vehicle get quick and accurate notifications of all transmissions to the P25 network. Users will get indications of Channel Grant, Busy, Denial, Out of Range just as if they were on a trunked channel of the digital network.

In addition, the SVR-P255 offers optional AES and DES encryption, and enhanced P25 emergency sig-

nalng from portable to dispatch. The SVR-P255 also utilizes the Pyramid's latest ESP™ priority structure that resolves priority conflicts during repeater idle time rather than at the critical start of a conversation. With ESP™, priority vehicles are assigned without user intervention to ensure uninterrupted communications when users exit their vehicles. ESP™ also ensures a quick recovery if two vehicles get in a priority mode at one scene. Ω

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JPS - Dual Channel Gateway

The RSP-Z2 is an incredibly versatile dual channel VoIP-to-analog interface unit. The unit's two analog ports can be cross-connected, creating a local radio-to-radio or radio-to-PSTN patch that can be remotely controlled and monitored, or even patched to other devices.

When used in the Remote Extension Mode, the RSP-Z2 essentially acts as a pair of independent "cable extenders," able to transfer audio plus PTT & COR sig-

nals, via IP, from local radio or PSTN sources to other devices. In this mode, the unit behaves similarly to a one or two channel version of the popular JPS NXU-2A and ARA-1 units, but with many additional features such as RTP and if desired, a PSTN interface.

In Stand-Alone Mode the RSP-Z2 can create a local patch between its two analog interfaces. This dynamic patching capability can be controlled and its audio monitored via the unit's

web-based graphical user interface. Audio from this local patch can also be connected to additional radios or other devices interfaced by additional RSP-Z2 units or by a JPS radio interoperability gateway.

Multiple RSP-Z2 units can also function as a wide-area interoperability system. One RSP-Z2 is set to Controller Mode, able to cross-connect any of the radios, PSTN lines, or other devices that are interfaced to the other RSP-Z2s. Ω



**JPS
RSP-Z2
Gateway**

Cobham 8800SX Service Monitor

Your testing possibilities are endless with the Cobham AvComm 8800SX Radio Test Set. With P25 Phase 1 and Phase 2, NXDN, dPMR and DMR test capabilities, coverage mapping software, a comprehensive library of automated test and alignment suites for today's P25 radi-

os, antenna VSWR and Return Loss measurements, RF Cable Distance-to-Fault measurement, 500 Watt Thru Line Power Meter.

The 8800SX combines the performance and features of a bench-level test set with the portability and ruggedness of a field-level instrument. Weighing only

17 lbs. (7.71 kg), an internal battery with 2.5+ hour of operation, and rugged 30 G shock rating, now test professionals will no longer compromise portability for critical test features.

Call me for information and a demonstration. Ω



**Cobham AvComm
8800SX
Radio Test Set**

OTTO - OTTO Connect™

OTTO Connect™ is a fully conversational system that enables hands-free communication among teams of people. OTTO Connect™ wireless intercoms provide up to 18 hours of talk time in a variety of demanding applications and environmental conditions. The digital signal processing technology provides

ambient noise reduction in high-noise environments. Operating in the 900 MHz frequency range,

OTTO Connect™ offers excellent performance in environments where other intercoms fail, including better performance through walls, in rain and over greater distances. The op-

tional Fusion™ accessory enables work teams to communicate around the world by interconnecting to existing cellular or two-way radio networks.

With five different headset options to choose from there is an OTTO Connect™ to meet your needs. Ω



**OTTO Connect™
Wireless Intercom
System**



Bird - Channel Power Monitor

Bird's Channel Power Monitor provides you with continuous information on the health of each component of your system.

The Channel Power Monitor is comprised of a 1 RU central processor and a variety of sensors, which work together to monitor all components of a radio system, including each individual radio, the combiner, the feed lines and antenna.

These inexpensive sen-

sors are placed throughout the system, with a 5% accuracy that is traceable to NIST and as reliable as you have come to expect from Bird Technologies.

The Channel Power Monitor hosts its own webpage for setup and display of all measurement parameters. This enables you to access the system from any computer, tablet or phone on your network, only limited by your network security. The webpage displays all

measurements and easily allows you to set up alarms for failure conditions such as high or low power or poor antenna VSWR. The unit includes both software and hard contact alarms and can even be configured to send you an email to alert you to an emergency condition. Also standard, is Data Logging, which takes reliability one step further by enabling you to see degraded performance before it becomes an emergency. Ω



**Bird
Channel Power
Monitor**

Cadex - C7X00 Series Analyzers

The Cadex C7x00 Series battery analyzers offer a platform that fulfills virtually all battery testing and conditioning needs. With features such as QuickSort™ that checks lithium-ion batteries in 30 seconds, and Boost that revives dead packs, the C7x00 truly masters battery testing.

Slide a battery into one of our 1,500 custom Battery Adapters, or use a Univer-

sal Adapter and you will discover why the C7x00 has become the world's leading battery analyzer.

The C7200 Two-Station suits smaller organizations and storefront operations. 40 watts of charge power at 4 amps per station ensure quick service of larger batteries.

The C7400 Four-Station with four-stations and 80 watts of charge power, the

Cadex C7400 is most economical in terms of cost per station.

The Cadex C7400ER is the most powerful of the C7000 Series battery analyzers. Six amps per station, service of 36 volt batteries and 170 watts of continuous power satisfies most service requirements.

We have demos! Ω



**Cadex
C7x00 Series
Battery Analyzer**

Times - Data Line Protection

The Times-Protect® Data Line protector family utilizes a unique leading edge technology to provide surge protection at a level not previously available for twisted pair Cat 5e and Cat 6 cables. The LP-DOE-I-G, LP-POE-IG and LP-PAE-100 have been tested to RFC2544 extended test methods.

The surge protection performance of this product family surpasses the performance of other available competitive products by a wide margin. The maximum surge rating for these products is only limited by the RJ-45 connector surge voltage and current handling capability.

- Meets Network Equipment Building System (NEBS) Level 3
 - Lowest surge and energy throughput
 - Lowest error rate
 - IP67 weatherized version available
- Contact me today for details. Ω



**Times Microwave
LP-DOE, POE & PAE
Data Line Over Voltage
Protection**



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Find us fast at
www.alster.com



Codan - Cyclone Repeater

The Cyclone repeater/base station provides a replacement for the Motorola Quantar® and other legacy equipment frequently installed in land mobile radio communications systems. By integrating the RIC-M technology from Avtec, the Cyclone can be used to leverage the existing v.24 interface that is widely used within the industry.

Many radio sites are equipped with aging and obsoleted legacy repeaters, including the Motorola Quantar®, which use non-P25 Standard interfaces. Production of these legacy repeaters ceased several years ago, meaning that parts for critical components became a challenge to obtain.

Ultimately, users are faced with the need to replace the existing station and until now the only option

was to use a next-generation repeater from the same vendor at a significantly higher price.

The Codan Cyclone is a repeater/base station that can replace the Motorola Quantar® and operate with a v.24 interface. An integrated Avtec RIC-M module provides the v.24 interface into the Cyclone by converting an existing v.24 connection to the APCO™ P25 DFSI connection used by the Codan transceiver equipment. If a v.24 interface is not used, the Cyclone has an analog E&M circuit interface that can be used for a simple audio and control interface. Once installed and operational, the Codan Cyclone works seamlessly with the existing consoles, interface units, and other legacy base/repeater units.

Contact me for more information.
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ACES 2017

Mark your calendars,
this year ACES will be in

Salem, OR,

Tuesday, Oct 3

Issaquah, WA,

Wednesday, Oct 4

Anchorage, AK,

Thursday, Oct 5