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PRINCE GEORGE'S COUNTY BUILDS A CUTTING-EDGE RADIO SYSTEM

One of the Washington area's last jurisdictions to switch to a trunked radio system will soon become a technology leader. In just a few months, Prince George's County's new trunked radio network is expected to be operational.

The county may be the first jurisdiction in the nation to deploy a digital two-slot TDMA proprietary Motorola radio system. No scanner is currently made which would decode this format.

The new system will feature 21 or 22 antenna sites throughout the county. With the exception of three towers, as of August, all of the sites have been built. The radio hardware for the sites is expected to arrive in December.

The system is anticipated to be operational in February or March of 2009 for testing purposes. A few months later, the existing conventional channels would presumably simulcast with the trunked system during a transition period.

The county is in the process of procuring a new 9-1-1 center somewhere in the Bowie area. The center would either be built in the Bel Air section of Bowie, or may occupy leased space in an existing office building.

The county is expected to use Motorola's new APX™ 7000 multi-band portable radio (see: http://tinyurl.com/apx7000). That radio is capable of operating in analog, FDMA and TDMA digital formats on VHF, 700 and 800 MHz. The radio also promises to include GPS for outdoor location tracking. This is presumably the same radio being developed for Virginia's STARS network.

The county will be divided into a north and south zone, each with its own set of 700 MHz channels. Some talkgroups will simulcast across both zones, while others will not, or only as needed.

The county's existing 800 MHz channels, currently used by the north and south EDACS analog network, may be converted to use for interoperability with the new system. The county plans to create some old-style Project 25 patch channels (or talkgroups) to accommodate older radios such as Motorola's XTS3000 and XTS5000 which are used by neighboring jurisdictions.

The primary fire/EMS dispatch channel will simulcast on a conventional channel along with possibly an operations channel. There is also talk of using a VHF high band frequency for fire alerting.

The county has 25 pairs of 12.5 KHz channels reserved for use with the new system. Each 12.5 KHz channel is actually two 6.25 KHz channels. Only the center carrier frequency appears below. Mobile inputs are exactly 30 MHz lower, below 800.0 MHz, and that is why this is known as the 700 MHz band. These new channels, currently used for TV broadcasting, will be assigned to public safety communication in 2009.

799.28125, 799.58125, 799.75625, 800.05625, 800.25625, 800.35625, 800.61875, 801.05625, 801.18125, 801.35625, 801.73125, 801.75625, 801.79375, 802.05625, 802.09375, 802.48125, 802.88125, 802.91875, 803.13125, 803.23125, 803.63125, 803.88125, 804.15625, 804.20625, 804.68125

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SCANNING THE U.S. MARSHALS SERVICE

The U.S. Marshals Service (USMS) is the nation's oldest and most versatile federal law enforcement agency. Federal Marshals have served the country since 1789, oftentimes in unseen but critical ways. To this day, the Marshals occupy a uniquely central position in the federal justice system. It is the enforcement arm of the federal courts, and as such, it is involved in virtually every federal law enforcement initiative.

A U.S. Marshal is appointed by the President to direct the activities in each of the 94 districts, one for each federal judicial district. More than 3,200 deputy marshals and criminal investigators form the backbone of the agency. Among their many duties, they apprehend more than half of all federal fugitives, protect the federal courthouses and judges, operate the Witness Security Program, transport federal prisoners and seize property acquired by criminals through illegal activities.

U.S. Marshals Service offices are based on the organizational structure of the Federal District Court system. Virginia is divided into two judicial districts, Eastern and

Western. Maryland and the District of Columbia are each separate districts. The agency's national headquarters is south of the Pentagon at 600 Army-Navy Drive in Arlington County.

Much of the agency's radio communication is digital and encrypted, but not always. Here are the primary frequencies used in Virginia, D.C. and Maryland:

163.7250 r/s Washington 1 Washington
163.6500 r/s Washington 1 Bull Run
170.7125 r/s Washington 1 Fredericksburg
168.7625 r/s Washington 1 Richmond
163.6750 r/s Washington 1 Charlottesville
163.7250 r/s Washington 1 Suffolk
170.8000 r/s Washington 1 Fairfax
164.6750 r/s Washington 2
168.9250 r/s Washington 3 IAD Immigration Adv Prog
172.5875 r/s Washington 4
170.8000 r/s USMS NW

163.6750 r/s Baltimore 1
163.6250 r/s Baltimore 1 NW
165.8250 r/s Baltimore 1 NE
163.6250 r/s Baltimore 1 E
162.0750 r/s Baltimore 2
168.9250 r/s BWI Immigration Adv Prog
163.2000 r/s USMS Balto

162.9500 s Tac 1 (DC-Balto)
165.9000 s Tac 2 (DC-Balto)
163.7000 s Tac 3 (DC-Balto)

Courthouses
162.7875 r/s D.C. Superior Court
163.2000 r/s D.C. District Court
163.6500 r/s D.C. District Court
163.7250 r/s D.C. Superior Court
165.0750 r/s D.C. District Court
170.7500 r/s Eastern Va (also courthouse common)
170.8750 s D.C. Superior Court Tac

U.S. Marshals History: http://tinyurl.com/usms1

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NEW CHANNEL PLAN FOR MONTGOMERY CO. RIDE-ON BUSES

Ride-On added a new UHF voice repeater (channel 1). Channel 4 is a simplex channel that Ride-On has used for several years. Here is the new channel plan in the transit system's HT750s:

453.4000 r [114.8] Ch. 1
452.7750 r [203.5] Ch. 2
452.8250 r [156.7] Ch. 3
457.8125 s [67.0] Ch. 4

SCANNING SUMMIT POINT MOTORSPORTS PARK

By Robert Shearman (rmsjr74@yahoo.com)

Jefferson County, West Virginia is a frequent destination for those who are "off to the races," although by that, most will mean a trip to Charles Town Races & Slots. Just west of that, though, is a more serene and park-like setting -- serene, that is, until engines are fired up and tires screech against pavement in picturesque Summit Point, West Virginia.

They refer to it as a "Motorsports Park," and as I alluded to, it is exactly that -- very much a park, great for camping, picnicking, or even grilling out (as long as the smoke doesn't carry across the course too much). It's almost surreal to stand peacefully under a shade tree one minute, then watch two dozen sport bikes scream past at 100 m.p.h. the next.

Wooded rolling hills and numerous towering sets of bleachers surround the infield and perimeter of the largest of three racing circuits where the "spectator events" are held.

The circuits host amateur automobile, kart and motorcycle racing, and high performance driver's training for local and federal law enforcement agencies, such as the State Department.

"Summit Point Raceway" was built in the late 1960s and early 1970s and opened in 1973 as a professional racing venue. Falling into dire financial straits the track closed in the late 1970s and was purchased in the mid-1980s by 1970 Formula Vee World Champion Bill Scott, who added the two additional circuits.

The following notes were taken as I monitored the transmissions of the Mid-Atlantic Roadracing Club (MARRC) safety crew on 461.1375 MHz, on a day in which WERA Motorcycle Roadracing was taking place on the main circuit. As with any safety-sensitive radio communication, the terminology and procedure used is tightly regimented.

The protocol for the safety crew is pretty much the same for the CCA Motorcycle events, but slightly different for the Sports Car Club of America (SCCA) car events. There are also similar safety crews working the two smaller circuits and their protocols are largely the same.

The main circuit is a 2-mile, 10-turn course. You should be familiar with a few features of the track, because they are referred to on the radio, such as the "back door" to the pit (a connecting road around turn 3 which leads

back to the paddock area), the "chute" (turn 4 which is on a little downhill slide that leads into...), the "carousel" (turns 5 through 7 which take a long winding tour around the back end of the course), "new baker" which is the entrance to the course from the grandstand area outside of turn 7 where the "Baker" medic takes station, and "the bridge" (the passage from the perimeter to the infield which extends over the race course just after turn 9).

While the wooded setting unfortunately means that no one location offers a view of the entire track, the best place to watch from in my opinion is straight ahead of the main gate which overlooks the "carousel," especially the stands left of "new baker." It's not the fastest action, which happens on the front stretch, but it is definitely the area most prone to some hairy situations as you have a great view of winding and tricky turns 4 through 9.

"Cornerworkers" are assigned to monitor the turns – often a radio person and a flagger (one person may perform both functions). They watch for incidents between their turn and adjacent turns. Communication is critical because of the spread-out and visibility-impaired nature of the course.

Also on the radio is "Control," who directs the communication of the safety crew and sits in the scoring booth; "Able One" and "Baker," the two medic units; "Junior," the tow vehicle; "Safety," the safety director; and various "ASDs" (assistant safety directors).

The main responsibilities of the safety crew seemed to me to be: (1) keeping riders informed by signal of any potential problems on the course, and limiting or inhibiting operations on the course when it is not safe; (2) participating in scoring of the event by accurately reporting any safety infractions which impact it; and (3) keeping the events flowing smoothly by making the fastest transitions possible from unsafe to safe conditions.

Control starts with a "clear and green course check" in which each of the 10 corners advise if their section of track is free of hazards, such as safety workers, disabled bikes or bikes still on the course, ambulances, fluids, debris, animals, etc.

This is followed by check-ins from Able One and Baker (if in service) as well as Safety.

Control will then say the "5 Board is up" which means the track is open for a warm-up lap.

WERA and Championship Cup Series (CCS) events that I have seen have been a series of short races, usually 10 laps, and each event is comprised of a different type of bike. Some are two-wave starts, meaning that two groups of riders leave the starting block one after another.

When the "2 Board is up," officials and crew must clear the grid and racers may not change position. The "1 Board" means the green flag is imminent, though not before the "1 Board" is turned sideways). Then Control says "Go green, we have a race!"

If there are problems, such as a rider missing first gear and getting piled into by the guy behind him, Control says "Red Flag, Red Flag, Red Flag, Stop the Session." All bikes would pit, they'd clean up whatever happened, and the safety crew would start again from a clear and green course check followed by another warm-up lap.

But assuming the start came off okay, turn 1 will always check-off that all riders got clear of the first two corners without incident. Presuming there are no incidents, the rest of the race will yield the following announcements:

Control: "Leader is halfway, bike number 7-7-5."

Control: "All bikes have seen halfway." This lets the scoring crew know that if the race is red-flagged at that point, it counts as a full race and is not re-started; the next scheduled event runs after the incident is cleared and the course checks clear and green.

Control: "Last lap, white flag is out for bike 7-7-5." Only the starter displays a white flag or a checkered flag. Then finally, Control says "Checkered flag is out for bike 7-7-5."

The race continues until each bike has passed the checkered flag; then each bike does a "victory lap" (waving and often showboating to the crowd at the various grandstands around the course) before returning to the pit entrance at turn 10.

Finally as the last bike still racing crosses the start/finish line and receives the checker, Control says "All bikes have seen the checker, last bike number 5-6-1 Blue, let's pick it up with a clear and green course check."

Then as the last bike to receive the checkered flag clears each turn on his victory lap and brings up the rear (usually not showing off as much as the winner) into the pit, each corner calls his corner clear after that bike is through.

That's the typical sequence, assuming there are no incidents. But there are many warnings a cornerworker can give riders to let them know that something is going on, and each is reported to control.

When each corner calls control, they say "Control" followed by their corner number followed by their flag status. If they are not displaying a flag, they are "Green."

Corners will also report small incidents like bikes that left and then re-entered the course momentarily. Occasionally a bike will inadvertently carry past turn 5 and go straight into turn 7, missing the "Carousel" area completely, and often they pick up positions this way. But the cornerworkers report this to Control and the riders are penalized.

If the cornerworker isn't green, he's often displaying a "Standing Yellow" (or simply "standing," in their jargon). They will do this for a mechanical problem causing a rider to progress slowly around the course, warning approaching bikes that there is a hazard. As the bike progresses, the corner immediately before it will go standing yellow, while the prior one will return to green (displaying no flag). If a corner calls "standing" due to a slow bike, either a later corner will report that bike back up to speed, or yellow flag will follow him around until turn 10 reports that bike entering the pit.

"Waving (Yellow)" is used for a bike down. The corner will call the bike as down, and whether the rider is also down (in need of ambo) or is "up and okay." They will indicate that this is all to "riders' right," "riders' left," or "center course." A cornerworker will never initiate a red flag call, but an incident on "center course" that cannot immediately be cleared will cause Control to Red Flag the session.

Incidents on the sides of the course generally cause a waving yellow just on that corner, even if an ambo is dispatched, unless the situation cannot be safely cleared without stopping the session. Again -- Control makes the Red Flag call.

The cornerworker can only describe the situation, and let Control make that decision. Generally, it's clear when the session has to be stopped, but they do this as infrequently as possible.

When the ambo is on course, there is a white flag with a red cross displayed by all 10 corners. Cornerworkers write reports for accidents with injury.

"Debris" is a yellow flag with red stripes. Often a corner calling this status will then ask the previous corner to "call a hole" (let them know when there's a space in traffic), then try to retrieve the debris from the track. They will often identify it as a bike part, so other corners are keen to keep an eye out for malfunctioning bikes missing such a part and possibly dropping fluids onto the track as a result -- a serious safety problem requiring a waving yellow or sometimes even a red flag to clean up -- smoking bikes are also watched closely for this reason. Debris is also used for animals, such as groundhogs, on the roadway.

When there is a stoppage for fluid or heavy debris clean-up, the corner handling this operation will notify Control of the expected length of the delay; "Plus Two" meaning "I need two additional minutes," etc. One of the top priorities is keeping events moving, so all delays are reported and minimized as much as possible within the bounds of safety.

The "pickle" is used to indicate precipitation -- at least, it was toward the end of the day I was there, but Control instructed corners to display this held in a triangle fashion, so fully unfurled it apparently has another meaning. If rain gets too heavy, such as if there are "connecting dots" (as in overlapping raindrops on the course) or the course "changes color" due to the rain, Control has the decision to Red Flag. In light rain, the corners will "go pickle" for one lap to let the riders know of the hazard and then will return to green status.

Overall I was impressed by the level of professionalism and teamwork exhibited by the safety crew. In a loud, fast-paced, spread-out environment, precise communication is critical but yet they all seemed to handle their duties with grace and ease.

When the main circuit races cars instead of bikes, the main difference I notice is that instead of a yellow status affecting only one or two turns, the safety crew will go to "full-course yellow" and a pace car will come out. Also, the pace car controls the warm-up lap and the start is made "rolling" instead of in waves at the starter's block, similarly to what you might be familiar with from watching auto race coverage on television. Generally the pace car will turn off its overhead flashing yellow light if it is planning to pit and release the course to green status after its current lap. Otherwise, most of the safety procedures for cars were pretty much identical to those with the bikes.

For more information about MARRC flag and hand signals and cornerworker duties, see the MARRC Website (link appears on the following page with the frequencies).

Please share other race frequencies for Summit Point or nearby tracks with the rest of us.

Travis McNerney, an MARRC member/cornerworker and CCS motorcycle racer, provides these frequencies:

151.6250	[d351]	Common at car events
159.9150	[ ]	SCCA
166.5500	[d054]	Diplomatic Security Service training
166.9500	[d054]	Diplomatic Security Service training
451.9250	[d156]	Ch. 6 Jefferson Circuit Control
452.0000	[d156]	Ch. 7 Shenandoah Circuit Control
452.1000	[ ]	
452.2500	[d156]	Ch. 10 Track Maintenance
456.9250	[d156]	
457.0000	[d025]	Ch. 2 Repair Shop
457.2500	[d156]	
461.1375	[ ]	MARRC safety crew
462.5500	[d627]	Ch. 7 CCS
463.4125	[d156]	“BSR Brick"
464.5500	[d132]	CCS scoring-motorcycle racing
464.6750	[d025]	Ch. 1 Track Repeater
468.2000	[d627]	Ch. 8 CCS
469.9500	[d606]	Ch. 9 CCS

Ch. 1 (464.675) is typically used to contact the track’s office for administrative purposes, such as requesting maintenance. 463.4125 is most commonly used by organizations to coordinate with their “Control,” track workers, ambulance crews and officials. These radios are often referred to as the "BSR Brick" which stands for Bill Scott Racing, the track’s owner.

Earlier this year, WERA was using GMRS/FRS radios amongst themselves rather than the BSR brick. But that’s not typical. Track announcers often broadcast on a low-power FM transmitter (88.7 and 94.1 MHz have been used in the past).

Many thanks to scanner hobbyist/motorcycle racer Travis McNerney for providing frequency information. Here he is in action at Summit Point as #6 and #440.

Recorded race comms:
http://tinyurl.com/MARRC

Summit Point Motorsports Park:
http://www.summitpoint-raceway.com/

MARRC (click on “safety crew” for cornerworker info):
http://marrc.nova.org/

WERA Motorcycle Roadracing:
http://www.wera.com/

Delaware Valley BMW CCA:
http://www.delvalbmwcca.org/Summit.html

Sports Car Club of America:
http://www.scca.org/

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Inside this issue:

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Please address all correspondence to Alan. We encourage readers to submit material and write articles that relate to the hobby. All submissions are subject to editing for style and content. When submitting material please make certain we can contact you should we have any questions. We welcome frequency and visitor requests, but please include a reply envelope.

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