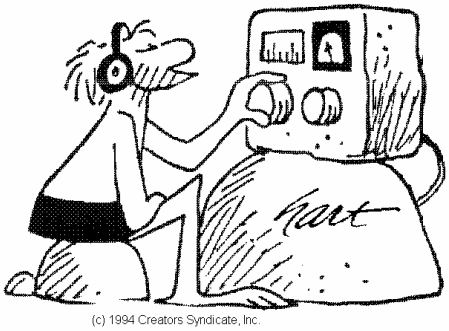

BARA Facts

Newsletter of the Binghamton Amateur Radio Association

June 2004

Website: http://www.wtsn.binghamton.edu/bara

Memories of the Dial

I well remember the old console radio-gramophone in Mr. Federline's basement. It was a polished mahogany cabinet that I discovered one afternoon as I rooted among the odds and ends and debris of half-finished projects that littered his cellar. Pulling open the door I saw the knobs and switches and the dial with its huge tuning knob and the names of foreign and mysterious places neatly lettered on the yellowed background. *London, Paris, Moscow;* I was transfixed and when I was told that the box would, indeed, pull in programs from those distant places I had to hear. Mr. Federline was anything if patient and indulgent of a young boy's questions so he strung a wire and plugged in the long-silent set. The dial-lamp glowed orange behind the yellowed dial and I still can smell the heated dust and see the glow of the tubes inside as the set came to life. Just a few moments later the hiss of static was punctuated by the roar of noise and the whistles of heterodyne as the magic of the Short Waves drew me into its seductive net. That was in the early sixties and though Mr. Federline is long gone to a better place I can still recall the magic and still taste the thrill of those mixed and foreign voices.

Years later, perhaps around sixty-eight or -nine my father bought me my first set: A dusty Heathkit Crystal Radio found on the back shelf of some country "antiques" store in Maryland or Virginia. I knew that I needed wire in the air and found a coil of copper stranded in the basement. Two lengths of wood drilled at the ends made insulators and in a very short time a serviceable sky-wire stretched from porch to tree while a bit of copper pipe served for ground. Hours I spent straining at my headset as my fingers twisted the tuning knobs and I sought new signals.

In the seventies my family moved to Pennsylvania and I discovered Broadcast-Band DX with an old Zenith AC/DC I had appropriated to my use. It's a wonder I survived this period as my screwdriver was often in the set, but I did and to this day I remember the night I turned it on and heard a multitude of signals not present in the day. Tuning around with the frantic skittishness of a starving man at a Sunday Buffet I listened to one and all and then I heard the magic word ***Chicago!*** To think that my little set in Mountain Top, PA could pick up the Windy City, but why? And why at night only? That night was an epiphany and soon I had a real Short-Wave (donated by my Uncle John). The attic became my workshop and galvanized fence-wire strung cross the rafters my fish-net in the ether as I tuned the world.

There are other memories, cherished and filed away in the attic of my memory. But for good or ill my adventures on the airwaves are rooted in a neighbor indulgent of a young boy's questions and a father who exchanged a few dollars of hard-earned cash for a little black box that held the world.

27th Empire State Games

Following a successful performance in 2000, the Empire State Games return again to Binghamton this summer. An estimated 5,000 athletes will compete in twenty-eight Olympic-Style sports spread across about thirty-nine venues in Broome County with additional venues in Cortland, Tioga and Tompkins County.

Supporting the Health and Welfare of the athletes, Amateur Radio Operators provide communications between Games Headquarters and each sport venue. Beginning with the Opening Ceremonies at 7 AM at NYSEG stadium on Wednesday July 28th an Amateur Radio Net will run until the Games close at 3 PM on August 1st. It is expected that the Net will close at 11 PM each full day of the Games.

We estimate a need for at least 100 Amateur Radio Volunteers. Official green Signup Sheets have been distributed at many amateur radio clubs throughout the area and completed forms should be

returned to Bob Brackett, KD2IM; 43 Upper Creek Road; Freeville, NY 13068 by June 14th to allow sufficient time to develop an overall master schedule.

The scheduling assignments will be mailed in early July along with detailed information about frequencies, net operating procedures, etc. Each amateur radio volunteer signing up by June 14th will receive a packet (to be picked upat a designated site at Binghamton University on Wednesday July 28th). The packet will contain the official ESG hat, green shirt and badge among other items.

All amateur radio volunteers must hold a current Licence of Technician Class or higher since almost all operation will be on the 2-Meter band. It is strongly recommended that HT batteries be properly cycled and charged for a minimum of four hours and it would be highly desirable to have a spare battery. To insure access into the games repeater, it is strongly recommended that the HT be capable of at least 1.5 Watts output with a rubber ducky around 5-7 inches long and either an earplug or headphones should be advisable. Several of the distant venues may use the 440 MHz band.

We are fortunate to have the games return so soon to our area and it is a reflection of the excellent volunteer support provided in 2000. This includes Amateur Radio Operators as well as many others who contributed to the success in 2000.

If you are unsure if you can make a commitment by June 14th, we will still welcome Amateur Rradio Volunteers after that date; in fact, we will probably encourage "walk-ins" during the games. Please understand that venue choices will become limited once the master plan is in place.

For Green Sheets or additional information, please contact the Amateur Radio Host Co-Chairs Dorothy, K2YEH, or Steve, K2CDJ, (k2yeh@arrl.net or k2cdj@arrl.net). — *Steve, K2CDJ*

Making Every Bit Count

We resume our interrupted presentation of the Digital Domain with a look at another way of coding information. Thus far we have viewed Digital Encoding in terms analogous to Morse Code and used patterns of Ones and Zeros (Bits or Binary Digits) to represent information. This is certainly an important technique in the Digital Domain and a number of standardized Encoding Schemes exist.

Baudot, for example, is the traditional mode used for RTTY work. It uses five Bits to represent each symbol in its Alphabet and it includes a special Shift Code that doubles the number of Symbols that can be represented.

ASCII (the American Standard Code for Information Interchange) is a more modern Code developed for computers. It uses eight Bits to represent 256 possible Symbols (including a number of special Control Characters). It's worth noting that older ASCII systems used a seven Bit code (with an eighth Bit reserved for Parity) and permitted 128 possible Symbols.

Understanding Binary begins with understanding that the Decimal System of Numeration that we use every day has a set of ten characters (0-9) and that the Zero Character represents both a quantity

But how to represent Numerical Quantities? This problem often arises when we wish to convert an Analog Signal (such as an Instantaneous Voltage Value) into a Digital Representation. An obvious solution is to simply translate the value into the corresponding Numeric Characters (e.g., 25 Volts is translated to "25"). This is the original method used for representing "numbers" in Electronic Computers: Designers realized that the digits 0-9 could be represented using just four Bits so they developed a code where 0000 represented the value zero, 0001 represented the value one and so on. For reference, the entire table is reproduced here:

Number	Bit Code	Number	Bit Code
0	0000	5	0101
1	0001	6	0110
2	0010	7	0111
3	0011	8	1000
4	0100	9	1001

Binary Coded Decimal "Bit Codes" for the ten Decimal Digits.

Using this system the value 25 (twenty-five) would be represented as 00100101 and the system itself is known as Binary Coded Decimal (BCD).

While Binary Coded Decimal is an excellent system for representing the kinds of numbers found in Business and Banking applications, it has some limitations. Without going into detail, we will just note that a straightforward Binary System is much better suited for representing the kind of numbers found in Engineering Scientific, and Communications Systems.

(Zero) and a Place-Holder. We can count from one to nine using the individual Symbols, but to go higher we must begin reusing the Symbols. With only two Binary Digits (0-1) we need to begin reusing sooner and if we refer to the BCD Table above it's easy to see that the code for each digit is simply it's Binary Representation "padded" on the left with Binary Zeros to make a total of four Bits. To continue the example, let's count from ten to fifteen:

Number	Binary	Number	Binary
10	1010	13	1101
11	1011	14	1110
12	1100	15	1111

Binary Values for the Decimal Numbers ten through fifteen.

If we wanted to go further, we would need to "roll over" and add another position to the left; so sixteen would be written as 10000.

That's just a flavor of how the main Digital Coding Schemes work. Detailed Alphabets for Baudot and ASCII can be found in Communications Textbooks and more information on the Binary System can be found there or in a General Mathematics text. For now we close with the observation that there are 10 kinds of people in the world: Those who understand Binary and those who do not.

SK W2HJS

It is with sadness and fond memories that I report the passing of Charlie Kipper, W2JHS, at age 90 on 8 May in Sun City, AZ. "Kip" was a BARA member in the fifties and sixties and also, for many years, a manufacturing foreman at GE in Johnson CityI recall his two — yes, two — going away parties. His first was when he left for a position at another GE location. Subsequently, Charlie returned to Johnson City and then retired from GE in 1979 resulting in his second party. Strange, I recall one of his "spoof" going away presents was a black box with blinking lights and a loop antenna.

My first real ham rig was purchased from Charlie. It was an immaculately kept SWAN 500C that I used for many years until I disposed of at a hamfest. Heck, I bet it still is in use somewhere today. I also remember Charlie acquiring a Heathkit 102 or 104 (maybe it was both). I think they (it) were the first digital HF transmitter and receiver kits produced by Heath.

Seeing Charlie's obituary in the Binghamton Press caused me to pause and recall some of the other Hams from GE, Johnson City. Bill Keuhl, Fred Law, Harold Blinko, Stan Warner and Sherwood Martin came to mind. Thanks, Kip, for the memories. — *Jack, WB2GHH*

CQ Public Service

Ford Drake, AB2HS, is looking for volunteers to provide communications for the Vestal-Twenty on Saturday, 19 June. There is also a possibility that communicators will be needed for a Tioga County Bike Race the same weekend. If you are interested in helping out, please contact Ford via the 146.82 MHz machine or at his Callbook Address.

New RACES RO Appointment

We learn through the grapevine that Mike Aswad, Director of Broome County Emergency Services recently appointed Jack Connors, WB2GHH, as Radio Officer (RO) for Broome County Radio Amateur Civil Emergency Service (RACES). Jack volunteered for the position and is familiar with the responsibilities of this governmental emergency communications organization since he was RO for many years in the late (19)70s and through the 90s.

We salute Jack for stepping up to the plate and we note once again the need for us as Hams to make ourselves available and visible in Public Service Communications and related activities. Working with and liaising between "Served Agencies" gives us visibility and strengthens our position with the FCC as commercial interests find more and innovative ways of making RF "pay".

Everyday Practical Electronics

Magazines with an Amateur Radio Twist are few and far between these days, however one sometimes surfaces and it might be of interest to know that our local Wegman's has started to stock *Everyday Practical Electronics* — a British magazine that might remind you of the old *Popular Electronics.* The cover price is $4.95 and the past few issues have included articles on such diverse subjects as Emergency AC Power Inverters, Bat Detectors/VLF Receivers, Wein Oscillators, Lead-Free Solder, Laptop Power Supplies, ans the European version of Broadband Over Power Lines. It might be worth looking over a copy and perhaps taking it home for "Bench" or "Beach" reading this summer.

Club Officers and Committees			
President	**Bob McCabe**	**KC2DSS**	**748-9808**
Vice President	**Ron Reagan**	**N2RWK**	**722-6790**
Secretary	**Allen Lutins**	**KC2KLC**	**729-4817**
Treasurer	**Paul Slocum**	**N2NCB**	**687-2057**
Directors	**Bob Handel**	**K2FU**	**693-4310**
	Malcolm Heath	**KC2EOV**	**753-7248**
	Steve Orzelek	**N2MSB**	**775-0281**
	Mel Snitchler	**WE2K**	**723-9612**
W2OW Trustee	**Frank Scoblick**	**N2HR**	**729-4249**
Newsletter	**Ed Plesnar**	**KB2SCF**	**754-3810**

BARA, The Binghamton Amateur Radio Association is an ARRL Affiliated Club

Next General Meeting

7:30 PM, Wednesday, June 16th Town of Binghamton Town Hall, 279 Park Avenue, South of the Ross Park Entrance

Board Meeting

7:00 PM, Wednesday July 7th
Broome Community College Campus, Office of Emergency Services (West Side of Campus)

Exam Session

7:00 PM Monday, June 28th
Vestal Public Library, Route 434 Vestal
1:30 PM, Saturday July 10th
Endicott Fire Station, Across from UE High School

BARA Dues

$18/year Single Member; $27/year Family

DX Cluster

W2OW on 145.070 MHz with a Data Rate of 1,200 baud; questions to n2bc@stny.rr.com

W2OW Repeater

147.390 MHz, 100 Hz CTSS. BRAT Net every Sunday Evening at 8:00 PM Local Time

Binghamton Amateur Radio Association, Inc.
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