Northern California DX Foundation, Inc.

3DA6Z: DECEMBER 1998

by Chris R. Burger ZS6EZ crb@nanoteq.com

During December, Rudi Venter V51VE talked me into running a trip to Swaziland. I hadn't been on a DXpedition since the ZS9Z/V51Z trip in 1994, so a lot of my DXpeditioning kit had been scattered over several properties. A lot of work needed to be done!

Rudi and his wife Katti V51KV are planning a round-the-world yacht cruise, and he needed to learn the ropes. Vidi la Grange ZS6AL and his wife Hester ZS6ESU also accepted my invitation at short notice, although they couldn't stay for the entire operation.

Setting goals

Swaziland is not exceptionally rare, with regular activity by 3DAØCA and others on all bands and modes. So, there would be no pressure in terms of having to make lots of contacts. Instead, I had four clearly defined purposes in mind:

I needed a chance to relax and play radio for a change.

I wanted Rudi to learn about the logistics and techniques required for DXpeditions, and Vidi about multi-operator environments and computer logging. I'm building a big contest station, and some multi-operator efforts wouldn't be a bad idea.

I wanted to evaluate computer logging on a small DXpedition.

Finally, I wanted to see if we could actually make some QSOs and hand Swaziland out to the Deserving. A new prefix would be even better, if we could arrange that.

NCDXF Millennium Celebration

Midnight December 31st UTC is the deadline for donations that qualify for the NCDXF Millennium Celebration. Spectacular 14 x 20 inch photos from the 3Y1EE Peter I Expedition of January 1987 by Einar Enderud, LA1EE, and Kare Pedersen, LA2GV, will be awarded to four lucky NCDXF supporters early in the year 2000. Full details appeared in the preceding issue of the Newsletter and are also available on our web site, www.ncdxf.org.

The photos will go to the people who donate the most money to the Foundation in 1999 and express an interest in receiving a photo by the end of the year.

As of September 22nd, we have a lively competition with donors at $1153, $550 and $250. More recent information may be posted on the web site by the time you read this. Credit card donations may be made easily through our secure web server. Check the full rules if you want to participate.

The next week or two went by in a flash. There was lots of work to do: Making cables, refurbishing antennas, arranging paperwork, getting the computers up and running and getting the operators acquainted with the software. TRLog is very flexible, but it requires some serious effort to master!

I announced the operation on the Internet with my tongue firmly in cheek, stating how we would introduce a number of innovations on this expedition that hadn't been seen in a long time: No on-line log checking, no pilot stations, and not even round-the-clock operations. This one would actually require people to hear us coming back and confirming a contact, rather than allowing them to transmit blind and check later on the Internet if they made it!

On the way

About 100 km from home, it suddenly dawned on me that I'd forgotten to load the coax feedlines that Rudi and I had pulled from the store the previous day. Obviously, some of my organising skills had dissipated in the five years since the last trip! I had to make some phone calls from several stops along the way to ensure that Rudi and my wife Annemarie got together to get the cables into Rudi's car.

The hotel didn't know anything about my reservation when I arrived, so I booked into a temporary room for the night. The following morning, we found someone who knew vaguely about the arrangements, and had to move all my stuff to the new room next to the antenna tower.

During the day, the other operators arrived and joined in the antenna work. I had to see Jon Rudy in Mbabane that evening, and wanted to get everything up and running as soon as possible.

Things didn't work as planned, though. A fellow hotel guest fell backwards in the bathroom, and shattered a drinking glass under her hand. The glass slashed her palm and wrist to an alarming extent, and she was losing lots of blood. Rudy did what he could to stem the bleeding, and I agreed to drive them to Mbabane in the patient's husband's car. The trip normally takes 80 minutes, but I managed to negotiate the winding mountain pass, the pedestrians and the unexpected livestock in about 35. I had to push the powerful car to its limits,

though, with very harsh acceleration and braking, to ensure that we didn't take any unnecessary risks. If we'd been immobilised by even a minor accident, the patient would surely have bled to death.

While the patient was being stiched up, I took a taxi into town and spent some time with Jon. I also hand-delivered his QSL for a Teletype contact that afternoon, giving him his first Swaziland station on RTTY. That night, I drove the husband and the hotel staffer back. When we arrived at the hotel, I was expecting to see an altered skyline and bustling activity. However, everyone was asleep. Obviously, they shared my first priority. This was no ordinary DXpedition!

The next day and a half, we completed the antenna farm. Antenna work was not that pleasant, as the hotel's tower has decayed to a dangerous extent. One leg of the tower is rusted virtually completely through. However, we managed to erect a second tower, and get all the antennas up and running. The portable tower supported a C3 tribander, while the fixed tower supported a two element Quad for 25 MHz and a 5 element Yagi for 50 MHz. We also erected two tall low band verticals with lots of radials (a Battle Creek Special and a K9AY vertical) and two dipoles for various bands.

Two full days of operating followed. We often had two stations running simultaneously, with little interference. There was a high QRN level, and a hash that covered some bands. We couldn't identify the source of the hash, but it appeared after our return that a computer power supply may have been the problem.

The low bands were a dismal failure. Several hours per day were spent on 160, with less than a dozen contacts in the log. ZS stations reported similarly disappointing results. If it hadn't been for 3DAØCA's thousand contacts on the band, I would have been devastated!

The next day, the other operators had to leave. I accompanied Rudi to the border, where we made some cross-border 50 MHz QSOs. I then dropped off the radio and beam for 3DAØCA to use.

I was now the only operator. My wife and daughter arrived the following day, and we spent some time

siteseeing and relaxing, while I operated radio at night and whenever there was a good opening for RTTY. I also tried to work 30 m on a few occasions, but the hash on the band made copy pretty much impossible.

My family left after two days, and I started disassembling the station for my return. There was a lot of work for a single person, and it took me more than a day. The two low band verticals, one tower, three beams and two wire antennas had to come down, and the hotel's tribander had to be re-installed. I left the fish can sleeve there, in case anyone else ever operates from there again. I hope whoever uses it appreciates the craftsmanship!

When I checked out, I was faced with a huge bill. The new management had decided that, unlike previous operations, they would charge me for the radio room. I paid the bill, but the rusty tower, broken rotator and mercenary attitude have convinced me to establish a new radio location somewhere in southern Africa. Mozambique is my first choice, if we can find a suitable location.

Judged purely by the number of contacts, the operation was a dismal failure. The low bands were almost totally unproductive, and we didn't keep round-the-clock operations going. In fact, my own operators later criticised the fact that there had been too much hardware, and that the set-up time ate into the operating time.

However, in terms of the first three stated objectives, I would say that the trip was a resounding success.

You might be wondering about my verdict on computer logging. I will not use computer logging again for a small operation, at least not until logging software starts implementing a scratchpad function. The inability to jot down more than one callsign, and then work them in a row without having to wait for the pileup, means that computer logging slows down the fast operator. In case you think that I might have a problem with computer literacy, I'm a 70 wpm touch typist with reasonable computer skills. While contesting and large multi-operator DXpeditions might benefit from real-time duping and strategy assistance that computer log-

ging offers, I believe that it's not worth it for the small DXpedition.

I also appreciated the opportunity to re-establish my DXpedition logistics, something that came in handy just a few weeks later. The ZS8D story elsewhere in this issue should explain why.
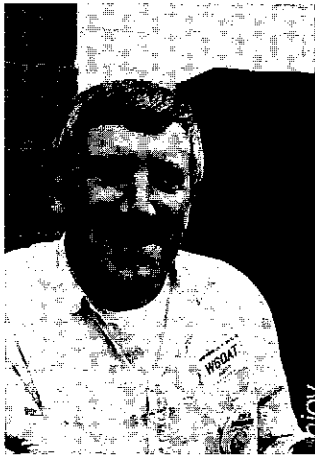
Thanks!

Many individuals helped to make this operation a success. The operators all contributed time and equipment. Tjerk Lammers ZS6P, Charlie Summers WØYG and the Battle Creek crew (WØCD, W8UVZ and K8GG) loaned us equipment and antennas. Jon Rudy 3DAØCA helped with the footwork at that end. The NCDXF funded the printing of QSL cards yet again. Thanks guys!

NCDXF Director Rusty Epps, W6OAT

By Chod Harris, VP2ML

Every volunteer organization depends heavily on the expertise and enthusiasm of its members and especially its officers, for they are the ones who do the day-to-day work of the organization. The Northern California DX Foundation is no exception; the NCDXF exists because of the efforts of its active volunteers. The NCDXF is fortunate to have someone who epitomizes the virtues of an active volunteer, a person who brings considerable personal skills to the tasks at hand: Charles "Rusty" Epps W6OAT.

Rusty has been an active and competitive amateur for more than 40 years. His amateur career traces its inspiration to the launch of the Russian satellite Sputnik. (The Russians had purposely chosen a beacon frequency for Sputnik close to an amateur band, so that thousands of hams could confirm the orbital nature of the signal.) Rusty listened to the beep-beeps from near space, and was hooked on radio, to the good fortune of the NCDXF and amateur radio in general.

Rusty was fortunate to have John Laney K4BAI was his Elmer; how nice to learn from one of the very best! Rusty's competitive nature showed early, with an entry in the Novice Roundup as KN4BVD in 1959. He earned the first of many contest awards by submitting the top score from Georgia in his first year as a ham.

Rusty's amateur career took a back seat to his educational pursuits in the Sixties, while he earned a degree in engineering from the Massachusetts Institute of Technology and a Masters in Business Administration from nearly Harvard. Amateur radio was never far from Rusty's thoughts, however, as he earned his Extra Class amateur license during his studies, with the call sign K4BVD.

In the late Sixties, Rusty moved to Northern California, and began an extended career as a "guest operator" during major contests. Jim Maxwell W6CF recruited Rusty into the Northern California DX **Club,** for which he would serve as president in the future. Over the next few years, Rusty was a regular in Top Ten listings for contests, especially as WA7NIN from Nevada in Sweepstakes, a contest he finally won in 1986.

Rusty fully appreciated the advantages of being on the receiving end of pile-ups, and became an active DXPEDITIONER, with some impressive countries to his credit. In addition to some multi-operator entries from Curacao, Rusty managed a couple of second-in-the-world finishes with simple stations as KV4HW and 4M4AGP. In 1974, Rusty was one of the members of the Palmyra/Kingman KP6PA/KP6KR operation. Rusty was immortalized in a book and movie about a double murder on Palmyra, into which Rusty stumbled, fortunately without adverse consequences.

Rusty led the effort to establish amateur radio on an official basis in Nepal. Father Moran 9N1MM had operated for many years on the personal authority of the King. Working with Father Moran Rusty and others made the first official operation by foreigners in Nepal, in 1982 as 9N38. Never one to pass up a challenge, Rusty signed up for DXpeditions to Clipperton FOØ in 1984, '86, and '87. (He only had to actually go to that unpleasant location twice; one trip was canceled when the ship captain thought better of the idea of sailing to the remote atoll.)

While winning radio contests and making thousands of contacts on DXpeditions, Rusty was also active in local and national amateur radio organizations. He was one of the founding members of the Northern California Contest Club, was an early advocate of the DX Packet Spotting Network in the San Francisco Bay area, and served as Section Communications Manager for the San Francisco ARRL section.

Rusty understands the importance of volunteer efforts for the success of amateur radio (and other) groups. He has put his money where his mouth is, so to speak, and has served as president of both the Northern California DX Foundation and the Northern California DX Club. In recognition of his contributions to the latter organization , Rusty was selected as the NCDXC's DXER of the Year. More recently, he was named to DX's most prestigious honor: membership in CQ's DX Hall of Fame.

In other contributions to amateur radio, Rusty was one of the organizers of the popular North American Sprint contests, and served as that contest's administrator for more than 10 years. He was the Chief Judge in the 1990 WRTC competition, and was Publicity Chair for the 1996 running of that event.

In on-the-air operating, Rusty has earned that most difficult of amateur radio's awards: Five-Band Worked All Zones. (He eagerly awaits the last couple of cards, showing again that "getting 'em on the wall" can be as great a DX challenge as working the stations.) His next radio goal is to work 100 countries on all five traditional bands, on both CW and SSB. His other achievements include 5BDXCC and DXCC Honor Roll #1 (although he was bumped along with almost all other DXers out of the number 1 slot, thanks to the limited P5 operations.)

In yet another illustration of Rusty's innovative and meticulous efforts on behalf of DX and amateur radio in general, he volunteered to organize the stateside QSLing of the mammoth ZA1A and YK0A operations. He demonstrated that a well-organized team can provide very fast turn-around on QSLs, even when the cards arrive by the thousands at a time.

Recently Rusty has retired from his successful career as an corporate attorney to run a restaurant: Give Pizza Chance. He devotes what little spare time his radio duties allow to play competitive duplicate bridge at various venues around the country.

Given his many awards and honors, one might think that one of these was Rusty's most cherished accomplishment. However, the one operating achievement for which Rusty is most proud in a simple ARRL CW Code Proficiency certificate. However, as befitting an amateur of Rusty's skills and stature, it is not just any Code Proficiency certificate. On Dec. 10, 1974, the ARRL included 40 words per minute in their official transmissions for the first time. (The previous top speed was a plodding 35 wpm.) Rusty was one of only two amateurs to earn that 40wpm certificate on the first transmission, sharing the honor with K2KIR, no CW slough himself.

Rusty's numerous contributions to the Northern California DX Foundation and amateur radio in general have had a profound, positive effect. The members of the NCDXF thank Rusty for his efforts and support, and look forward to our relationship continuing to be mutually beneficial in the future.

(Thanks to NCJ and John Crovelli W2GD for background information.)

GAZA CITY
PALESTINE

FIRST-EVER DXPEDITION TO NEW PALESTINE

ZS8MI QSLs

by Chris R. Burger, ZS6EZ

South Africa's Marion Island traditionally was relatively easy to work. Any of the crew members could operate the club station ZS2MI, and it was on the air almost daily. In the Sixties, all this changed when the South African licensing authority decided to allow only radio amateurs to operate the station. Activity dwindled, although severel operators continued to activate the station intermittently into the Seventies.

In 1988, the ZS8 prefix was assigned to Marion Island. The first operator to make use of ZS8MI was Peter Sykora ZS6PT, who operated there between 1989 and 1990. Other operators since then have been Gerard Everett ZS5AEN and Christie de Kock ZS1CDK.

Traditionally, each operator had to appoint a QSL manager and make arrangements for cards to be processed. Peter used Dave Burstein ZS5E as manager. Gerard and Christie both used their own Callbook addresses, and their parents handled the QSLs.

When Chris de Beer ZS5IR went in 1996, I was adamant that I would only handle his QSLing if he got his own callsign. Reassigned callsigns are a recipe for disaster! We negotiated with the licensing authority, and they duly issued the first personal callsign, ZS8IR for use on Marion.

However, over the years I've continued to receive many requests for help with ZS8MI cards. Clearly, there was much confusion about the route for any particular contact. While I've never been the manager, it was clear that some help was needed to consolidate the QSLing.

I started talking to some of the operators and managers in 1997. Recently, I finally managed to get access to all the logs, and approached the NCDXF for help with printing cards. I have now had 2500 cards printed, sporting the three ZS8MI operators and ZS8IR. I can simply mark the correct callsign and fill in the details. The logs are in a variety of formats, but I can probably find any contact in the log with a bit of effort.

The bottom line: All ZS8 operations can now be confirmed through a single route, thanks to the Foundation's generosity. Should you require any cards for ZS8MI, ZS8IR or ZS8D, the Callbook address has been correct since 1992. The various other Internet and CD databases change their entries almost daily, but they should also eventually get your request to the right place. All requests with sufficient postage will be returned directly, and the remainder will go via the bureau. Please note that a single IRC does not cover return postage to Europe, the USA or Japan.

Marion Island Yet Again!

by Chris R. Burger ZS6EZ crb@nanoteq.com

In February, I had a phone call from Tjerk Lammers ZS6P. He'd been approached by the South African Radio League for assistance. Deryck Yelverton ZR6DIY was going to Marion Island for a year, and he'd asked the League for help. We had very little time, as the ship would be sailing in five weeks. There is no way to get things onto Marion except on the supply ship, so we had to get to work very quickly.

Marion is part of the Prince Edward Island group. The other island is uninhabited and is, predictably, named Prince Edward Island. Marion has a weather and biological research station that has been in operation for over 50 years. Its location at 47ø South places it within a stone's throw of other delightful holiday destinations like Heard Island. A crew of about a dozen people spends thirteen months on the island, doing weather and biological research. The ship arrives in April and leaves in May each year. In between these visits, the island is cut off from the outside world, except for a satellite telephone system and the odd radio amateur.

I knew Deryck, as he'd been on the island with Chris de Beer ZS8IR, who was the odd radio amateur in 1996 and 1997. Deryck was Chris's main antenna maintenance assistant, and took an active interest in Chris's activities. At the time, Chris felt that Deryck had been ready to pass his Morse test, but Deryck never took the opportunity to upgrade his no-code VHF license.

There was no time to lose. Tjerk coordinated efforts to get Deryck's Morse training taken care of, while I started working on equipment and logistics. I immediately approached Rusty Epps W6OAT for help in his personal capacity. I wanted to know what he felt I should do, as it was rather a tall order for the Foundation to spend funds at short notice on what amounts to an untrained operator. Rusty immediately went to work, not only to guage the feeling among Foundation directors, but also to investigate antenna options.

Rusty elected to act as intermediary and help actively with the logistics, rather than as Foundation officer. He excused himself from voting for this effort. However, he obtained the necessary antenna information and directors' votes in short order. To address concerns about the risk of funding an unproven operator and possibly wasting Foundation funds, it was decided that any equipment supplied would go into a DXpedition pool which I would continue to administer. Thus, even if this particular operation doesn't yield impressive results, at least the equipment will continue to produce action for the Deserving in the longer term, from Marion and other locations in southern Africa.

Once this arrangement had been put in place, the Board quickly approved the necessary funding for an antenna, amplifier and QSL cards.

Antennas would be a major problem. All previous ZS2MI and ZS8MI operations, as well as ZS8IR, used the island's rhombic antenna farm. However, just after ZS8IR's departure, the Rhombics were dismantled. The HF system is now only a backup to the satellite telephone line, and the bunny huggers didn't fancy the idea of some near-extinct googoo-bird impaling itself on the masts or being decapitated by an antenna wire during a night solo. Good news for near-extinct googoo-birds, but not very good news for Chris trying to pull together the logistics for a meaningful all-band DX operation!

I spent time on the telephone with Chris de Beer ZS8IR, who now lives in Saudi Arabia, and with the Environmental Affairs officials responsible for issuing the necessary permissions. We never could determine exactly what the layout is on the island, and we also couldn't determine the dimensions of the single tower that remains on the island. Bernie van der Walt ZS4TX installs communications systems professionally, and was able to lean on one of his tower suppliers to provide a mast that Deryck can bolt to the existing tower, with an assortment of clamping hardware to cover any conceivable dimensions that might be encountered. This mast will protrude above the existing tower, and includes a rotating sleeve which will allow the beam to rotate, but to remain very securely on the tower in those breezes that blow in those parts.

I suggested the Force 12 C3/H antenna for the high bands, as standard antennas do not take kindly to Marion's Roaring Forties location. I had some reservations about making delivery schedules, but in the event Tom Schiller N6BT came up with a specially-made antenna very quickly.

We bought a used solid state Yaesu FL7000 amplifier, as again there were concerns about the probability of inadvertent damage to a tunable amplifier. This amplifier previously produced spectacular activity from 3DAØCA, and we're hoping it will do likewise from a few other locations in future. Getting it here proved to be an adventure in itself, as several shipping arrangements had gone wrong. Eventually, it arrived in a plastic bag in the back of a truck. The drivers apparently thought the cardboard box and padding were just taking up space. Fortunately, the amplifier is in good working order and provides no-nonsense output without much finger poking.

The Battle Creek group came up with a wire Battle Creek Special. The tubing version had proven incapable of

withstanding the Roaring Forties, and we're hoping that the wire version will produce similar results without the ongoing maintenance that the previous operation required. The parcel was mailed within a week of the request, even though W8UVZ had just returned from a DXpedition himself. These guys have never failed to come up with the goods, although I've had to put up with a fair amount of good-natured abuse about the time scales involved. It was not my fault this time, honest!

Feedline also needed attention. Perennial supporter Arno du Plessis ZS6BDD, through a personal contribution and very aggressive pricing from his company Cabletronics placed the necessary 200 m of RG-213 within reach financially.

While Rusty and I were trying to make the logistics happen, Tjerk arranged with Bill Ingleson ZS6KO to get Deryck's Morse up to speed. Our Morse test requires three minutes of solid copy at 12 wpm, something which requires considerably more work than a comprehension test at 13 wpm. Bill spent much time working with Deryck and preparing practise tapes for him, but had to leave town just about when Deryck was ready for the test. I asked Vidi la Grange ZS6AL to help. Vidi and his wife Hester made the three hour trip especially for the test. It would have been very difficult to arrange an examiner locally at short notice, and their help proved invaluable. Deryck and Vidi spent an evening on the air at my station, working some stations side-by-side while Vidi provided pointers and running commentary.

Deryck passed the code exam with about a week to go. We spent another few days ironing out the license, as the license office didn't know anything about these fancy ZS8 callsigns. They were adamant that a ZS1 callsign was just the thing. After three days of incessant phone calls and some prodding from Tjerk, the callsign ZS8D was finally approved.

In the mean time, Deryck came over almost daily to do some CW operating. Deryck has an IC735, which had already been sent to Cape Town in an Environmental Affairs shipment. I assembled a station in my lounge for him, using my IC735 DXpedition radio to emulate his operating conditions as closely as possible. Fortunately, all the cabling was on hand from my 3DA6Z trip two months before. I organised him a headset, footswitch, TNC, DX Edge, keyer and paddle, and we assembled everything, including the amplifier, for him to try out. I also made a set of waterproof manuals for all the equipment, so that he wouldn't have to carry the bulky originals. He made a number of contacts with the club callsign ZS6Z. I'm sure if he enjoys CW he'll get his speed up quickly, and he has all the necessary tools to make it enjoyable.

We assembled the antenna to verify that it was complete. We then packaged the entire antenna into an ammunition crate and three PVC tubes. The Battle Creek Special provided some excitement, as it only arrived the morning that Deryck was due to leave for Cape Town.

While all this was going on, I was under the hammer at work and very busy with some assignments for a university degree that I'm working on. I also had a four-day business trip to Cape Town in the middle, during which I took the opportunity to inspect the ship that would take them to the island. This icebreaker SAS Agulhas was undergoing repairs after a recent mishap with a glacier in the Antarctic, and was dangling off the quay at a precarious angle while welders swarmed over its bow like ants. I hoped they knew what they were doing!

I was very relieved when Deryck left, as I'd lost a lot of sleep. However, the end was not quite in sight. Two days before the ship's departure, I phoned Deryck in the Cape just to check if everything was on track. I discovered that the original shipment had been broken into on the way to Cape Town, and that Deryck's IC735 had been stolen. Arghhh.

With some help from Bernie van der Walt ZS4TX, I organised an overnight courier to collect my IC735 and deliver it to Deryck. The arrangements almost went wrong, as the courier delivered the package a day late, barely half an hour before Deryck checked out of the hotel to board the ship. Why can't things ever be simple?

As this is being written, Deryck is probably hanging over the rails of an icebreaker, feeding the fishes of the South Indian Ocean. It will be a few weeks before he completes the handover and settles into a routine that allows time for amateur radio, but we're all hopeful that he'll settle into such a pattern, and I'll be swamped with mountains of air mail letters to answer.

When you enter that RTTY or 160 m QSO into your log, just remember that it didn't happen automatically. There was some serendipity involved, as some of the logistical stuff was prepared for the 3DA6Z operation some weeks before. There was also a lot of hard work by several individuals involved; they've been mentioned in the text, and I won't labor the point by naming them again. And remember to let the Foundation know that you appreciate the way that they continue to use your funds to pull off miracles in no time flat.

"I use the NCDXF beacons frequently. Brilliant!"

-Roger Western, G3SXW

Beacon News
by Bob Fabry, N6EK

BeaconSee Program

A new PC computer program for automatically monitoring the NCDXF/IARU beacons has revolutionized my use of the beacons and can do the same for you. The program, called BeaconSee, was written by Bev Ewen-Smith, CT1EGC. (Bev has previously held calls G3URZ, VK5AES and, long ago, VP8LB.) It runs under Windows 95 and Windows 98.

The Hardware Setup

BeaconSee requires you to connect the audio output of your radio to the input of a 16-bit SoundBlaster-compatible sound card on your computer. You must also have your computer clock set accurately. BeaconSee then displays a plot of the audio frequency out of your radio as a function of time in a way that makes it very easy to identify which beacons are being heard.

If your receiver's listening frequency can be computer controlled, BeaconSee will cycle your radio among the bands you specify so that you can monitor as many bands as you wish. Since it takes three minutes to listen for all the beacons on one band, if you monitor all five bands BeaconSee can listen for each beacon on each band once every fifteen minutes and will then display the results for the past two hours on its screen.

The BeaconSee Screen

BeaconSee is an incredibly powerful tool for understanding current band conditions. I leave the program running all the time, and whenever I come into the shack I have an immediate assessment of the current propagation situation.

A portion of a typical BeaconSee presentation is shown in the accompanying figure. The data area of the screen is showing two bands, 14 and 21 MHz. These are labeled on the right edge. The 14 MHz band occupies the top part of the presentation and the 21 MHz band occupies the lower part. On each band, the presentation covers receiver audio output frequencies between 900 Hz and 1100 Hz, as indicated.

The results for the eighteen beacons are arrayed across the presentation, left to right. The illustration here shows a little more than nine beacons. The beacons are labeled at the top of the screen. On each band, the results of the previous eight ten-second monitoring periods are shown, the most recent time being on the right. Each ten-second beacon sample is comprised of five two-second readings.

The strongest beacon shown here is LU4AA on 21 MHz. Since two bands are being monitored, each beacon is checked every six minutes and the information about LU4AA on 21 MHz represents eight ten-second samples covering the past forty-eight minutes.

Interpreting the Output

The white pattern for each sample of LU4AA on 21 MHz is triangular because the beacon transmission reduces in power over the course of the transmission. A stronger signal will show up as covering a slightly wider frequency range. The white pattern does not last the entire ten seconds because there is a quiet time between transmissions. This triangular "footprint" of a strong beacon is quite distinctive. The footprint and the regular repetition rate of the signal gives one confidence that it is actually a beacon one is seeing and not some other signal.

There is a lot more information in this picture. Notice that on 14 MHz, the OH2B and LU4AA beacons are not transmitting on exactly the same frequency. This example shows about a 50 Hz difference in their frequencies. Also, one can detect a slight drift on some of the signals over the forty-eight minute period.

With a little practice, QRM is easily distinguished

from a real beacon signal. A constant carrier will show up as a horizontal line. Static will show up as a speckling. A thirty second CW transmission will show up on three or four successive beacons in the same place in the time versus frequency space.

Even very weak beacon signals seem to be easy to identify by the repetition pattern. Look at the weak signals on 14 MHz for ZS6DN and OA4B. There is no doubt that these blips are really these beacons. Bev believes that his program can detect signals that one cannot hear. I have not convinced myself that he is correct, but, on the other hand, I have never heard a signal with my ear that his program did not also detect, and that in itself is amazing to me.

bandwidth   center   file saving   sampling   date time
            freq   rate
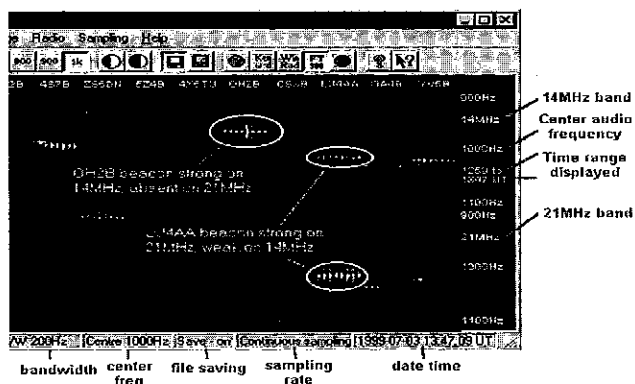
Free Download

You can download a free version of BeaconSee over the internet that will let you do everything described above. Go to http://sapp.telepac.pt/coaa/ . You may want to check the NCDXF web site also for our latest information about BeaconSee.

If you register your copy of BeaconSee, which costs US$29 (plus 17% IVA tax), there are some other great features that are available. A registered version will allow you to capture the screen periodically and store it as a disk file. Also, a registered version will allow you to sample at a slower rate, perhaps once an hour, so a screen can cover a longer period of time.

The Future

Having a program like BeaconSee available suggests many interesting avenues for the future. We

will be chronicling future developments on the NCDXF web site and in future editions of the newsletter.

One next step is for people in various parts of the world to run BeaconSee and post their results on the World Wide Web for everyone to use. I hope to be doing this myself by the time you receive this newsletter. The NCDXF web site should have pointers to public sites which post BeaconSee output.

Notes on the Beacons

The callsign for the Hong Kong beacon has been changed to VR2HK. Both VR2HK and RR9O were shipped in September and may be on the air by the time you read these words. VE8AT came on the air from Eureka in March. Eureka is within the newly formed Canadian territory of Nunavut and an eventual change in the callsign is anticipated to reflect this political change.

Beacon Schedule

Here is the minute and second of the first transmission in the hour for each beacon on each frequency. Transmissions are repeated every three minutes and consist of the callsign followed by four one-second dashes. The callsign and the first dash are sent at one hundred watts. The remaining dashes are sent at ten watts, one watt and a tenth watt.

MHz	14.10	18.11	21.15	24.93	28.20
4U1UN	00:00	00:10	00:20	00:30	00:40
VE8AT	00:10	00:20	00:30	00:40	00:50
W6WX	00:20	00:30	00:40	00:50	01:00
KH6WO	00:30	00:40	00:50	01:00	01:10
ZL6B	00:40	00:50	01:00	01:10	01:20
VK6RBP	00:50	01:00	01:10	01:20	01:30
JA2IGY	01:00	01:10	01:20	01:30	01:40
RR9O	01:10	01:20	01:30	01:40	01:50
VR2HK	01:20	01:30	01:40	01:50	02:00
4S7B	01:30	01:40	01:50	02:00	02:10
ZS6DN	01:40	01:50	02:00	02:10	02:20
5Z4B	01:50	02:00	02:10	02:20	02:30
4X6TU	02:00	02:10	02:20	02:30	02:40
OH2B	02:10	02:20	02:30	02:40	02:50
CS3B	02:20	02:30	02:40	02:50	00:00
LU4AA	02:30	02:40	02:50	00:00	00:10
OA4B	02:40	02:50	00:00	00:10	00:20
YV5B	02:50	00:00	00:10	00:20	00:30

The Early History of the NCDXF/IARU Beacons

by John Troster, W6ISQ

Shortly after the formation of the Northern California DX Foundation (NCDXF) in October 1972, the newly formed Board of Directors decided that the organization should expand its horizons to include something of a scientific nature in which all amateurs—DXers and non-DXers alike—could participate. NCDXF support for DXpeditions and overseas operations would be a priority because DXers of the world would be the major contributors to the Foundation. But we hoped to do more than just send radios and DXpeditions and print QSL cards.

We consulted our Scientific Advisor, Dr. O.G. "Mike" Villard, Jr., W6QYT, Professor of Electrical Engineering at Stanford University and Senior Research Scientist at Stanford Research Institute (now SRI International). Mike had an idea. He was concerned about the disappearance of fishing and other boats in Alaskan waters every year. He believed that if the circulation of the Arctic currents were better understood, searching rescue ships would have a clearer idea where to look, thus increasing the chance for finding small lost boats. To help solve this problem, Mike suggested the possibility that a floating beacon be dropped into these Alaskan currents. This could be tracked by amateurs around the world to monitor the drifting course of the beacons.

Mike had a friend with just such a drifting beacon which would transmit on 20 meters with 1 watt or 25 watts, and it was being tested in Washington, D.C. Mike arranged for his friend to turn on the beacon one Saturday morning, and we organized a listening group on 20 meters via the Northern California DX Club 2-meter network. The beacon was easily readable with 25 watts, and pretty good with just one watt. So even the 1-watt QRP transmission could be monitored and useful to amateurs some distance away.

There was One Big Problem with the drifting beacons: their cost of $25,000 each was about 25 times greater than NCDXF had in the treasury. In addition, the beacons were non-recoverable. The idea of a beacon remained appealing, however, and with further thought, the development of a series of relatively low-cost stationary beacons world-wide appeared possible. It would be much cheaper and would still work!

We set up a series of brown bag lunch meetings at SRI to explore possibilities. To do the heavy thinking, we recruited some of the fellows who had worked on Oscar I–IV: Chuck Towns, K6LFH, who was president of Project Oscar at the time; Lance Ginner; and Board Member Jim Maxwell, W6CF, who was always full of imagination and creative thoughts.

After a month or so of meetings, we agreed it would be possible to develop a world-wide beacon network. It would feature all beacons transmitting the same message, each about one minute in length, all on the same frequency, one after the other, and going around the world. At Mike's suggestion, we also planned to step down the power output of the beacons in 10 dB steps, beginning at 100 watts. The beacon would come on the air with 100 watts, sign the beacon callsign, then step down to each of four power levels, 100, 10, 1, 0.1 watt, and finally back to 100 watts for the sign-off call. Each power level would last about 10 seconds before automatically switching to the next level.

All this planning and daydreaming was just fine, but who was going to design and build this thing? We turned to Chuck Towns and he looked deep into the engineering talent of Project Oscar and came up with an enthusiastic, knowledgeable designer and builder, Jim Ouimet, K6OPO.

One seemingly small matter had to be addressed now, but it was potentially the biggest hurdle. We would need an FCC license! So we wrote a letter to Mr. A. Prose Walker, W4BW, then Chief of the Amateur Branch of the FCC. We received a prompt answer from him saying, essentially, he thought this was a good idea. The plan showed the creative ingenuity that amateurs had used in creating Oscar-1. It was a program that would be for the benefit and interest of all amateurs worldwide, and thus of interest to the WARC-79 planners (he expressed this sentiment personally later). He invited us to join as a member of the WARC-79 group which was beginning to develop the amateur agenda for that important international conference. The NCDXF/IARU World-Wide Beacon Network owes its existence to the early encouragement of Mr. A. Prose Walker.

Attending WARC-79 meetings in Washington offered the all-important opportunity to discuss with the FCC Amateur Branch engineers what requirements we would have to meet before submitting the proper application for an unmanned, automatic beacon on 14 MHz. One requirement was that we submit a contour map showing the beacon location, as well as the location of all amateur station operators in the San Francisco Bay Area who would be monitoring the beacon 24 hours a

day. This was a precaution in case the beacon drifted off frequency, the keying mechanism failed, or anything else went wrong (the map requirement was the same as for early 2-meter repeaters). A lot of Northern California DX Club members did not realize they were now expected to have a receiver on 14.1 MHz day and night, and listen to it...continuously!

Meanwhile, back in Palo Alto, CA, Jim Ouimet was busy designing and building the beacon. He became so busy at work that he had to turn beacon construction over to a colleague. But the work proceeded and, on bench tests, did exactly what it was supposed to do.

The license arrived and we were assigned the call WB6ZNL, not exactly a nice, crisp, short beacon-type call, but it was a license and we were elated and grateful!

In 1979, the beacon was put in operation from a trailer on a low hill overlooking the Stanford University campus. It worked remarkably well, transmitting a one-minute message every 10 minutes for about two years. We received reports from all over the world telling of its reception. So the beacon was doing what it was supposed to do.

Now all we needed was to build eight or nine beacons and distribute them around the world. But there was another problem. Our beacon transmitter was very complicated to build and, we had to admit it, a real boat anchor. Also, Jim Ouimet was being sent world-wide by his company for extended periods. We definitely had a problem in manufacturing those other beacons.

About this time, Dave Leeson, W6QHS, came on the Board of Directors of NCDXF. We described the problem to Dave and he went to work in his lab. He came up with a solution: use a Kenwood TS-120 as the beacon transmitter and build a black box to control the entire system. Dave built the control unit and hooked it up to the TS-120 and, Voila!, we had a beacon transmitter that an amateur with an average build and strength could lift.

We now needed eight more beacons. Who was going to build them? Fortunately, the late Cam Pierce, K6RU, another NCDXF Board Member, took on the project with great enthusiasm. He had the control circuit boards designed and built, cabinets designed and made, cables fabricated, and the units tested. He turned on a real engineering production line.

The new beacons worked beautifully. We put up two quad loops at right angles, complete with a phasing box,

designed by Mike Stahl, K6MYC, then at KLM Electronics. At about the same time, we received the call W6WX/B for the beacon. NCDXF had acquired the call after the untimely death of a well-known local DXer, Dave Baker, W6WX. That beacon was on the air almost continuously until 1990—when it was stolen from the trailer!

As Cam Pierce was building beacons, we began to contact potential beacon station operators spaced around the world. At the United Nations, we talked to Dr. Max de Hensler, HB9RS, "Mr. U.N. Amateur Radio." Max immediately said yes, he would like to operate a beacon there. Martti Laine, OH2BH, arranged for a beacon at the University of Helsinki and also in Madeira. Local DX Club friend Bruno Bienenfeld, AA6AD, introduced us to an astronomy professor, Dr. Ahron Slonim, 4X4FQ, at his alma mater, Tel Aviv University. Kan Mizoguchi, JA1BK, introduced the beacon idea to the JARL. We also contacted old DX friend ZS6DN for a good location in the Southern Hemisphere. And at Honolulu City College, we spoke with Professor Bob Jones, KH6O. Later we received approval from Radio Club Argentina to put a beacon in Buenos Aires. Here were eight groups ready to operate a beacon and join W6WX/B at Stanford to complete the first World-Wide Beacon Network.

These new beacons were unique. Each would transmit the same one-minute message in sequence one after the other on 14.1 MHz. The message was the same as before: callsign at 100 watts, then four 9-second dashes at power levels descending from 100 watts to 10 watts, to 1 watt, to 0.1 watt—then back to 100 watts to sign-off. This same message has been transmitted on 14.1 MHz by beacons for almost 14 years.

Beacons were distributed to the operators as they were completed and tested. They have all been in almost continuous operation since being put on the air. We have had two thefts, one at W6WX/B, the other at JA2IGY. Lightning struck a tree which crashed into the antenna at ZS6DN/B. A hurricane flattened the vertical at KH6O/B. Once in a great while something did go wrong with the beacon or power supply, but was repaired locally. But the TS-120s, in general, were remarkably free of problems. This is a very good record, considering that they were on the air continuously for between 10 to 12 years each.

The International Amateur Radio Union (IARU) had been interested in beacons on a world-wide basis for many years. In 1984, at an IARU Advisory Council meeting, Alberto Shaio, HK3DEU, then Secretary of

Region 2 of IARU, had an idea. He suggested that a frequency and time-sharing network, as used in the NCDXF system, would be the best way to present beacons on a world-wide basis. We talked it over and have been working together ever since.

Somewhat later, it was decided that the network should be expanded and up-graded to a multiband network. Also, we had ideas about expanding the number of beacons. But back to the old problem—who would do the work?

Quite fortuitously, at a meeting of the Northern California Contest Club in 1988, this writer met Bob Fabry, N6EK, retired Professor of Computer Science at the University of California, Berkeley. Somehow we drifted into a conversation about beacons and Bob said he would be interested in building rather than programming for a while. I suggested he talk to Dave Leeson, W6QHS, who designed the present generation of beacons, and who just happened to be sitting at the next table. They immediately started drawing pictures on the table and closely collaborated over many months until Bob had a prototype. Thus was born the new generation of beacons.

We wanted to shorten the time of each beacon's transmission so we could increase the number of beacons without stretching listening time beyond listener attention span. So, Bob recorded beacon messages at various speeds, from about 10 to 20 seconds; that is, beacon call, then four short, power-stepping dashes only. He played the tape for the Directors of NCDXF, and we voted unanimously that 12 seconds would be about right. The same tape was played for a meeting of the Executive Committee of IARU Region 2. They agreed that 12-15 seconds was good. However, as a practical matter, Bob used a 10 second transmission for each beacon. This allows six beacons per minute, or 18 per three minutes, which is the number of beacons we wished to use.

Originally it was planned to use the Kenwood TS-140 transceiver for the beacon transmitter. However, various technical factors pointed to the Kenwood TS-50 as the better transmitter to use. It should be stated that Kenwood Corporation donated 16 of these transceivers to the International Beacon Project, for which we are sincerely grateful. Kenwood requested that a plaque be affixed to each TS-50 that states that the unit is dedicated to the memory of Jim Rafferty, N6RJ.

Bob constructed a control unit to control the functions of bandswitching and power stepping the beacon. He also used the Trimble Global Positioning System (GPS)

receiver as a time control unit to assure accurate functions. Everything's state-of-the-art in this new system.

As this new beacon was being crafted, we went to work with the IARU, with their worldwide associations, to secure additional beacon locations, principally in the Southern Hemisphere. As I write this in September 1996, Radio Club of Kenya, Radio Club Peruano, Radio Club Venezuelano, Radio Amateurs of Canada, New Zealand Amateur Radio Transmitters, Wireless Institute of Australia, Chinese Radio Sports Association, and Radio Club of Sri Lanka have accepted our invitation to join the network. One location is being held for Central Russia. These additions will bring the total number of beacons in the network to 18.

Frequencies were chosen for the five new bands after a survey of several months by Bob Knowles, ZL1BAD, and his worldwide crew at the IARU Monitoring Service. Frequencies chosen were 14.100, 18.110, 21.150, 24930, and 28.200 MHz. We are quite aware that 14.100 MHz is in the middle of packet station QRM. However, W6WX is limited to that frequency because of our FCC license. Actually 14.100 has been designated on the IARU band plan as a "guarded" frequency for the beacon network for many years. We are hopeful that packeteers will give a little up and down to keep 14.100 clear for the network.

Distribution of the new five-band beacons began in the fall of 1995. As of September 1, 1996, twelve of the 18 systems have been built and shipped. Six of the units are on the air and easily copiable. When the entire network is operational, a listener will be able to hear beacons from all parts of the world on a given frequency in a three-minute period. Alternatively, the listener can follow a single beacon through the bands and determine the best band open to that area.

We are grateful to the Universities, National Societies, and individuals who have volunteered to operate the beacons in this expanded network. It will be interesting to monitor the beacons during the increase in HF band activity as the sunspot cycle passes through its minimum and begins its climb back to DX glory!

(Reference: "The NCDXF/IARU International Beacon Project", by John Troster, W6ISQ, and Robert Fabry, N6EK, QST, October and November 1994).

This material was written by John Troster for the 1997 edition of the CQ Almanac and is included here with the kind permission of the copyright holder, CQ Communications, Inc.

Online Membership Renewals

In spite of our name, the Northern California DX Foundation membership is world-wide and we do our best to evaluate funding proposals from a world-wide perspective. It has always been a problem for hams outside the United States to send donations to the foundation in an efficient way.

Fortunately, the World Wide Web has solved this problem. Today, hams anywhere in the world can make their donations to the NCDXF by credit card using our new secure web server. Many hams in the United States will find this the easiest way to make their donations as well.

While you are visiting our web site at www.ncdxf.org, poke around a bit. You will find DX information, information about the NCDXF and how to interact with us, information on the NCDXF/IARU Beacon Network, and reports and QSL cards from recent expeditions that we were able to support because of your donations.

DJERBA Island   AF 083

NCDXF Scholarship Winner

Matt Biederman is entering his senior year at the University of California at Los Angeles. He will graduate as a Computer Science major from UCLA's School of Engineering and Applied Science in June 2000, with a minor in Economics. In addition to his course load, Matt works as an electronic hardware intern at Biomorphic VLSI, Inc., a company that designs imagers for digital cameras. Beyond graduate school, Matt has his eye on developing products and processes that will make a difference to creative professionals.

An active student-athlete graduating with high honors from high school, Matt is now an avid Bruins fan and he participates in intramural team sports. He plays competitive basketball, and enjoys running, hiking, fishing, golf and other recreational sports. Matt's favorite summer getaway to a family cabin in northern California's Calaveras County lets him combine most of these into one vacation.

Matt is not only a native Californian, but almost a native ham. He is a third generation amateur, sharing the radio interest of his grandfather, WB6NSJ (silent key), and father, WB6L. Matt was first licensed as a Novice as KB6HKG at age 6, and upgraded to a Technician and then a General license when he was 8. He took the 20 WPM code test the hard way — before he knew how to spell very well — but it was easier for him than 13 WPM!

Matt likes DXing on 14 and 28 MHz using the family Collins equipment. His DXCC certificate stands at 160 countries confirmed, with 124 of those on 28 MHz and he has more than 40 more QSLs to submit. Matt has confirmations from the following NCDXF sponsored stations: ZL8RI, BQ9P, XZ1N, ZK1XXP, 3Y0PI, VP8SSI, XW8DX, VK9ZM, XF4L, TN4NW, VK9JM, XZ1A, ZA1A, N2OO/KH9, AH6MM/WH9, K9AJ/KH5K, and W0RLX/KH5.

A member of the Conejo Valley Amateur Radio Club, Matt has enjoyed taking part in Field Day and transmitter hunts. On campus, Matt stays up to date with his amateur activities by reading the 59(9) DX Report and ARRL DX Bulletins.
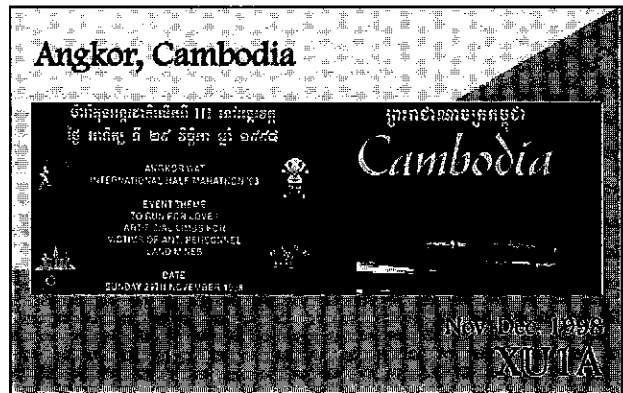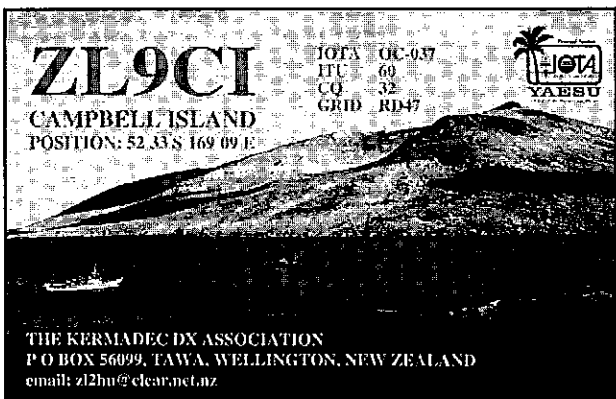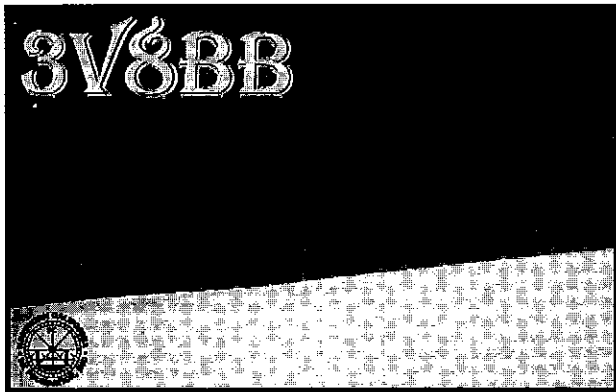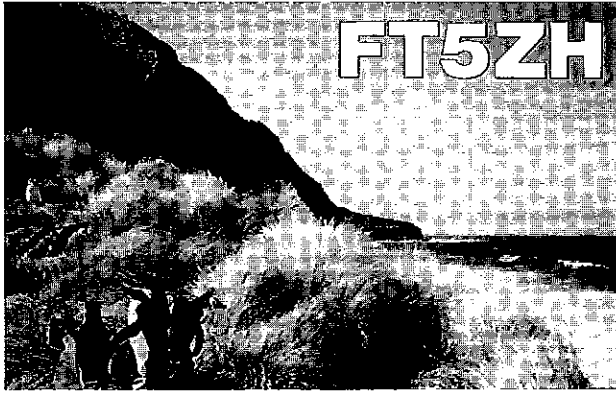
Slides & Videos

by Ron Steiner, K6KEO

There are two new additions to the video library. The first one is the 1998, 3B7RF Saint Brandon DXpedition. This is the Saint Brandon slide show which has been transcribed into video. It is very well narrated by George Wagner, K5KG and is 38 minutes. The second addition is ZL9CI, Campbell Island. This video was written and photographed by James Brooks, 9V1YC and was very professionally done. The video is well worth viewing and your club members will enjoy it. It runs 60 minutes.

I have made a few changes in the mailing procedure that will save you a little in postage. The changes are as follows: if I receive your request no later then two weeks prior to your meeting, I will send it "4th class" ($1.13). This is for one video only. For two videos or slides, I will use "Priority Mail" ($3.20).

Please, when you send your request, include the name of your club and the date of your meeting. Some request I receive give no mention of the meeting date. Occasionally I will receive the videos back without the container box. Please return the box, as this makes it easier for me to store the many videos.

Slide Shows and Videos

Clubs borrowing materials are responsible for postage in both directions. The amount can be learned from the postage on the package when it comes to you, and is usually about $3.20. Please give the name of your club, the day of the month you meet, and more than one choice of programs in case there is great demand for the item you want. Please return all material promptly, so it will be available for others. Request should be mailed to: Ron Steiner, K6KEO, 3154 Dominic Dr., Castro Valley, CA 94546

We have the following slide shows
1. Kingman Reef and Palmyra Is. Expedition of 1974. (148 slides).
2. K5YY Africa of 1978. (62 slides).
3. The Colvins on Easter, Galapagos, San Andreas, etc., 1984. (140 slides).
4. W6REC & ZL1AMO on Kermadec, 1984. (58 slides).
5. AH0C (Saipan), CQWW Contest Op, 1983, by WA6VEF & N6BT. (82 slides).
6. 1985, Clipperton Expedition. (191 slides).
7. Ponape Is., by N6HR, travelogue. (81 slides).
8. Pribilof Is. operation of 1982. (48 slides).
9. Midway, by NA6T & KD7P, 1985. (120 slides).
10. Anarctica, Arctowski, Palmer, Peter I, Macquarie stns.. (101 slides).
11. VR6, Pitcairn, Mar./Apr., 1979, by ZL1AMO & ZL1ADI. (51 slides).
12. SM0AGD 1982 Pacific DXped, 1982. (150 slides).
13. 9U5JB, Burundi, by ON5NT, 1983. (57 slides).
14. TYA11, Benin, by ON5NT, 1981. (61 slides).
15. VK3DCU/2, Lord Howe Is., by K2UO, 1980. (52 slides).
16. 3A, Monaco, by F6EYS & F6HIX of 1984. (43 slides).
17. 5X5, Uganda, by DJ6SI of 1985. (115 slides).
18. Market Reef, July 1983, PA0GAM/OH0/OJ0. (100 slides).
19. KX6DS, Marshall Is., 1986. (34 slides).
20. Andorra, by DL1HBT, DL3HAH, DL5BAD, DL4BBO, DL4BAH, 1986. (50 slides).
21. 1986, Clipperton, by W6SZN, W6OAT, AI6V, N7NG, W6RGG. (176 slides).
22. Peter I Is., 3Y by LA1EE & LA2GV, 1987. (127 slides).
23. KP2N, 1986, CQWW DX CW Contest. (55 slides).
24. OF0MA, Market Reef, 1987, SM5AQD, GM3YOR, OH0NA, G4EDG, G4JVG. (28 slides).
25. Abu Ali, AI5AA, by DJ6SI, 1988. (65 slides).
26. XX9CW, by DK7PE, 1986. (16 slides).
27. 1988, Palmyra, by K9AJ, KP2A, WA2MOE, W0RLX, F6EXV, JA5DQH. (30 mins.).
28. 1988, Kingman Reef, by the above operators. (96 slides, 28 mins.).
29. 1988, 4U, KC4, VK9Y, VK9X, and 9VI, by W7SW. (73 slides).
30. Banaba Is., T33JS, T30 & T27, by KN6J/VK9NS. (80 slides, 80 mins.).
31. XF4L, by XE1L, XE1OH, XE1XA, OH2BH, OH2BU, JH4RHF, W6RGG & N7NG. (40 mins.).
32. Publishing The DX Bulletin, by Chod Harris (24 mins.).
33. Rotuma, 1988 slides, by W6SZN. (73 mins.).
34. 4J1FS, MV Is., 1989, with Finn, Soviet & American DXers, by K7JA. (16 mins.).
35. ZS8MI, Marion Is., by Peter Sykora, ZS6PT. (60 mins.).
36. V63-KC6-P29, Micronesia/Melanesia, 1989, by KQIF & K1XM. (20 mins.).
37. YL DXped to Wallis Is., June 1989, by NM7N, N7HAT, N4DDK, KA0MX. (20 mins.).
38. A51JS, Bhutan, by VK9NS, Jim Smith. (60 mins.).
39. HC8X, Galapagos, by KQ1F. (34 mins.).
40. Faroe Is., May 1991, by N6HR. (28 mins.).
41. Palmyra Is., KP6AZ, 1963, by W6FAY. (c 1 hour).
42. VK9WW-VK9NL/W, Willis Is., Oct 1992, by Jim Smith, VK9NS. (36 mins.).
43. S2-Bangladesh, 1992, by Jim Smith, VK9NS. (26 mins.).
44. Christmas Is., 1992, VK9XN-VK9XM, by W5KNE. (50 mins.).
45. Jarvis, KH5, 1992, by WA6AUE. (45 mins.).
46. Kingman Reef, 1993, by N9NS, VE5RA, N0AFW, OZ1LFG, PA3DZN, PA0ERA. (90 mins.).
47. Palmyra, 1993, by G0LMX, HB9AHL, NH6UY, HDB9AEE, W7KNT, G3KHZ. (32 mins.).
48. Mellish Reef, 1993, by VK4CRR, G3WGV, K5VT, V73C, WA4DAN, VK2BJL, VK2BEX & P29DX. (25 mins.).
49. Dominica, 1993 by N6EK & KB6VVX. (40 mins.)
50. 3D2CU - 3D2CT Conway Reef 1995, by NI6T (56 mins.)
51. H40AA narrated by Bruce Butler, W6OSP
52. 3B7RF, Saint Brandon 1998 (38 mins.)

We have the following VHS programs

1. XU1SS (plus BV0YL & BV0JA),. (35 mins.).
2. 7J1RL, Expedition of 1976 & 1978, (includes ZK9ZR, Mellish Reef).
3. VK9ZR, Expedition of 1978, (plus Ogasawara, 1978).
4. Frankford Radio Club ARRL phone parody, (plus JH7YFL WW CW).
5. JF1IST/7J1, Expedition to Okino Torishima of 1979. (25 mins.).
6. Australian travelogue, Climbing Big Ben, Heard Island. (55 mins.).
7. Ham Radio In The South Cook Is., by ZK1CA & ZK1CT. (70 mins.).
8. VR6 by ZL1AMO & ZL1ADI, copy of above slides by Jim Hurt, W Geo College & W4VWA.
9. Looking Up In Rio Linda, 1986, by W6GO/K6HHD. (45 mins.).
10. Revilla Gigedo, XF4DX, of 1987, Produced by WA8MAZ. (15 mins.).
11. North Texas Contest Club, towers and contesters, by K5TCK. (45 mins.).
12. It Started With A Broken Fence - JH3DPB's Tall Tower Tale. (15 mins.).
13. Pile-Up Busters, by W8TN, AB0I & N0FVG. (10 mins. & usually sent with #12).
14. FG/W2QM/FS, French St. Martin, DXing Senior Style - Another wrinkle to DXing.
15. 1984 Laccadive Is. DXped, VU7WCY, plus 1983 VK0HI from TV. (about 60 mins.).
16. The K6UA contest station story. (25 mins.).
17. HK0TU DXped of 1983, Malpelo. (25 mins. with audio tape translation by KB6MZC).
18. The Ship That Shouldn't Have - VK0JS Heard Is. DXpedition. (90 mins.).
19. The New World Of Amateur Radio. (28 mins.)
20. S0RASD, The Western Sahara Story, 1987, by the Lynx Group. (37 mins.).
21. Auckland Is., 1988, by ZL1AMO, ZL1BQD, N7NG. (60 mins.).
22. Dr. Owen Garriot's first talk to hams about the Space Shuttle.
23. Russian Ham Radio Tour by WA6WXD, Oct. 1986. (45 mins.).
24. 3Y DXpedition, 1987, copy of slides by Jim Hurt, West GA College & W4VWA. (40 mins.).
25. Peter I, 1987, video from JA7ARW.
26. 1979 Spratly Is. DXpedition, by K4SMX, K1MM, VK2BJL, N2OO, N4WW & KP2A.
27. 1988 Malyj Vysoiskij Is., OH2BH, UZ3AU, OH5NZ, UR2AR, OH2RF, UW3AX. (23 mins.).
28. 3W8DX & 3W8CW by HA5WA, HA5PP, HA5BBC, Nov. 1988, Produced by W4BRE.
29. Aruba, P40V, CQ WW Test 1988. (12 Mins.).
30. A Message From Barry Goldwater, K7UGA. (12 mins.).
31. Navassa of 1988, by N2EDF, K2SG, KE4VU, KD2NT, N4GNR, KT2Q & W3GH. (38 mins.).
32. Rhodes, SV5, by N2OO & SV0AA, April 1989. (40 mins.).
33. N0IZ/KH1, Howland Is., 1988, by N0IZ, 7J3AAB, TR8JLD, VK9NS & VK9NL. (20 mins.).
34. Boeing ARC at the Electronic Convention and Great Wall Of China. (audio tape for VHS, 30 mins.).
35. K C Club DXpedition to Tonganoxie Is., a spoof. (30 mins.).
36. Tuvalu, 1989, by K6EDV & AL1AMO. (27 mins.).
37. Visalia Convention of 1990, recorded by W6NLG. (2 hours).
38. Rotuma, 1988, copy of the slide show bby Jim Hurt, WGC & Henry Owen W4VWA. (73 mins.).
39. XW8CW & XW8DX, 1989, by HA5PP & HA5WA, Produced by W4BRE. (27 mins.).
40. XU8CW & XU8DX, 1990, by HA5PP & HA5WE, Produced by W4BRE. (25 mins.).
41. All China Amateur Radio Direction Finding Competition, plus BY1PK. (32 mins.).
42. ZS5MI, by ZS6PT, partial copy of the slide show. (40 mins.).
43. Jim Smith, A51JS, visits the Bay Area, videotaped by WA6BXY. (80 mins.).
44. R9ZF/NN7A, NN7D & W7YS, August 1989, Lake Teletskoye, Siberia. (30 mins.).
45. VU7, Laccadive Is., 1984. (65 mins.).
46. VU4, Andaman Is., 1987, by Combatore Radio Club. (30 mins.).
47. 3Y5X Expedition, 1989, Video by JF1IST. (In Japanese, good photography, 35 mins.).
48. VR6TC speaks to the Turlock ARC, 1/8/91, VHS by K6IMN. (125 mins.).
49. 1990 Wolrld Radiosport Team Championships in Seattle. (25 mins.).
50. ICOM's More Than Radios, The Legacy We Leave To The Young. (25 mins>).
51. T33R-T33T. Banaba, Nov. 1990, SM7PKK, TF3CW & OH1RY. (22 mins.).
52. This Is ATV, by Western Washington AT Society & Seeing Is Believing, by AEA. (47 mins.).
53. New Horizon: South Pacific Adventure, by AA6LF. (55 mins.).
54. YB3ASQ: Indonesian Stations and Sightseeing, by W7TSQ. (25 mins.).
55. XF4L of 1989, by JH4RHF, XE1OH, XE1XA, OH2BH, W6RGG, XE1L, OH2BU & N7NG. (25 mins.).
56. ET2A, by W4IBB, Jack Reeves, May 1991. (12 mins.).
57. IS0XV, by UW3R, et al, July 1990. (35 mins. or a 2 hour version, your choice).
58. Jarvis 1990, from K3NA & KN3T. (35 mins.).
59. 3C0CW, Annobon, 1991, by the Garrotxa Club of Spain. (20 mins.).
60. Araucaria DX Group, Brazil, Contest Station and Operators. (30 mins.).
61. 9L1US, by Dave Heil, K8MN, ed. by Jim Hurt, West GA. College & W4VWA. (45 mins.).
62. Dave Heil, K8MN visits Finland, edited by Jim Hurt & Henry Owen, W4VWA. (35 mins.).
63. Penguin Is., 1990, from a slide show by N7NG, Wayne Mills, produced by MoBre. (15 mins.).
64. PJ9W, 1990, Spirit Of Victory, Radio Team Finland, produced by WA7LNW. (48 mins.).
65. Empire Of The Air: The Men Who Made Radio, recorded by KI6YB. (110 mins,).
66. Contest Night Live, by the Kansas City DX Club. (30 mins.).
67. DXing Kansas City Style, by the Kansas City DX Club. (30 mins.).
68. VP8ANT/G3CWI, Adelaide Is., Antarctica. (45 mins.).
69. H44, May 1991, by G3WVG, G3IXT & G3SXW. (12 mins.).
70. VP2EOH, Anguilla Is., by Northern Ohio DXA, 1992. 29 mins.).
71. T32T, Christmas Is., WPX SSB Test, Mar. 1990, narrated by VP2ML & video by JH1LBR.
72. VP8SSI, South Sandwich, 1992. (26 mins.).
73. More About Radios, Zman Productions, (How To Get Started In Amateur Radio). (28 mins.).
74. Navassa Is., Jan. 1992, by WA4DAN, AA4VK, N0TO, KW2P & AA4NC. (25 mins.).
75. Getting Started In DXing, by CQ Communications, Inc.. (52 mins.).
76. The Radio Ham, starring Tony Hancock, English comedy. (26 mins.).
77. Project Irma: The DX Truth-O-Meter, Northern Cal. DX Convention, 1993. (25 mins.).
78. ZL9DX, Auckland Is., by ZL1OK, ZL1AVC, ZL2TPY, JH4RHF & JR4DUW. (28 mins.).
79. CY0DXX, Aug. 1989, Sable Island by the Breton DX Group. (18 mins.).
80. V63-KC6-P29, by KQ1F & K1XM, slide copy by Jim Hurt & Harry Owen, W4VWA. (25 mins.).
81. Desecheo, KP5, 1992/3, with KW2P, N0TG, WA4DAN, W0RJU & AA4VK. (28 mins.).
82. E35X, Eritrea, May 31 - June 10, 1993, by LA6VM, LA1EE, JF1IST, LA9DL & LA7XK. (17 mins.).
83. AH1A, Howland Is., 1993, by ON6TT, W0RLX, K9AJ, W0CP, K0EU, W9IXX, K4UEE, F6EXV & G4LJF.(45mins.).
84. 9G1AA, Ghana, by PA3AWW, PA3FUE, PA3FUE, PA3ERA, PA3DEW & PA0TUK. (55 mins.).
85. 9M0S, Spratly Islands, 1993, N7NG, WA6AUE, OH6DO, JA5DQH, OH1NYP, 9VIYW, 9M2FK, OH2MAK and OH2BH. (30 mins.).
86. Journey to Peter I, 1994. (30 mins.).
87. ZD9SXW, Tristan da Cunha, 1994, by G3SXW. (18 mins.).
88. Last Voice From Kuwait, 9K2DZ. (25 mins.).
89. Malyj Vysotskij Island, 4J1FM / 4J1FW, October 1992, by AH0W ex 4J1FM. (43 mins.)
90. 3C0GD, Annobon, 1989 by LA8PV. (20 mins.)
91. IA0KM & HV4NAC. (30 mins.)
92. H44IO, South Pacific DX-pedition, by DL7IO ex DL7VTM. (46 mins.)
93. The Congo, TN4U & TN2M, 1995, by DL7IO ex DL7VTM (40 mins.)
94. 3V8BB, 1994 (17 mins.)
95. Mission to Jordan, The joint Israeli/Jordanian DX-pedition, JY74Z, in July '95. (43 mins.)
96. The Kermadecs DX Adventure, ZL8RI - DX AT ITS BEST (30 mins.)
97. World Radiosport Team Championship, 1996 (23 mins.)
98. VK0IR Heard Island 1997, by Peter Casier ON6TT (51 mins.)
99. Bell Lab's video. "Similarities in Wave Behavior" (27 mins.)
100. "Eric Edberg, W6DU Memorial Pacific DXpedition" by WA4FFW
101. Legends of Amateur Radio - W6EA, W6HX & K6OJ - Southern California DX Club (42 mins.)
102. DXpedition to the Spratlys - 1996 - Slide show on video (30 mins.)
103. H40AA, The Temotu DXpedition - April 1998 - (10 mins.)
104. 3B9RF, Saint Brandon, 1998 by K5KG (38 mins.)
105. ZL9CI, Campbell Island, 1999 by 9V1YC (60 mins.)

1999 Contribution

The Northern California DX Foundation relies heavily upon the generosity of its members to fund various projects. We urge each member to consider making an annual contribution of $25 U.S. or its equivalent in foreign currency or IRCs. However, we do not wish to exclude anyone from the Foundation for financial reasons. If $25 is not within your budget, then please give what other amount you can. Naturally, we welcome contributions in excess of $25! The NCDXF is an organization as described in Section 501(c)(3) of the Internal Revenue Code and all contributions are tax-deductible to the extent permitted by law for U. S. taxpayers.

☐ New member   ☐ Renewal

Name: _____ Callsign: _____

Address: _____ Contribution: $100 ☐
_____ $50   ☐
_____ $25   ☐
                                                  Other ☐

Total enclosed or charged
(contribution plus supplies)

_____

Please print or type clearly

Are your name, address and callsign on the Newsletter mailing label correct?   ☐ Yes   ☐ No

Use the envelope supplied with the Newsletter to send this form along with your contribution. If the envelope is missing, send contribution to:

Northern California DX Foundation
P.O. Box 1328
Los Altos, CA 94023-1328 USA   Please charge my: ☐ VISA   ☐ MASTERCARD   ☐ My Check is enclosed

Expiration Date: _____   Card Number: _____

quantity

Please also send me the following Foundation supplies: NCDXF Pin $6.00 ea. _____
                                                            Roll of NCDXF Labels $6.00 ea. _____

Signature: _____   NCDXF Rubber Stamp $6.00 ea. _____
(for charges only)

Please use this form or a copy when sending a contribution or ordering supplies

Northern California DX Foundation
P.O. Box 1328
Los Altos, CA 94023-1328 USA

Return Service Requested