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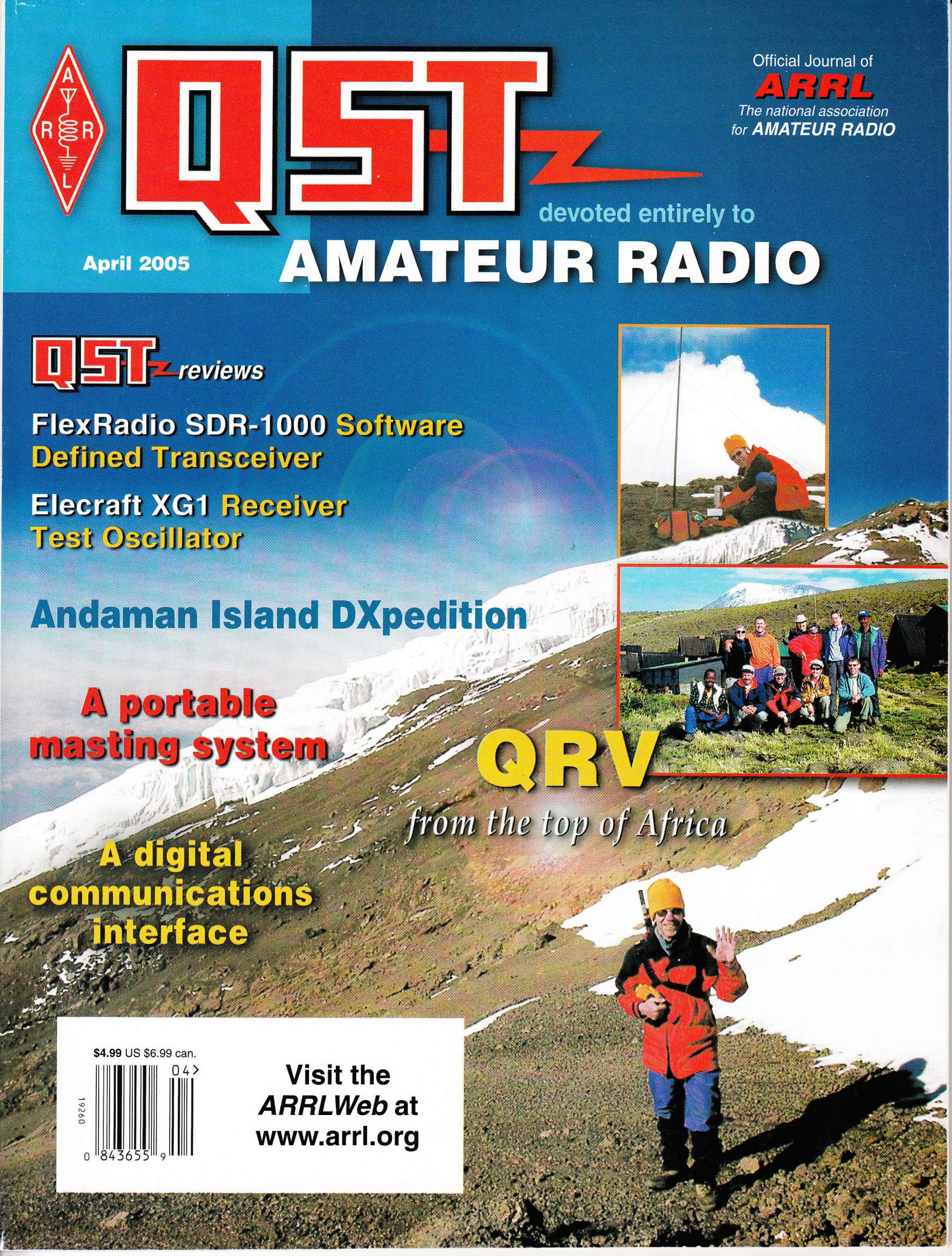

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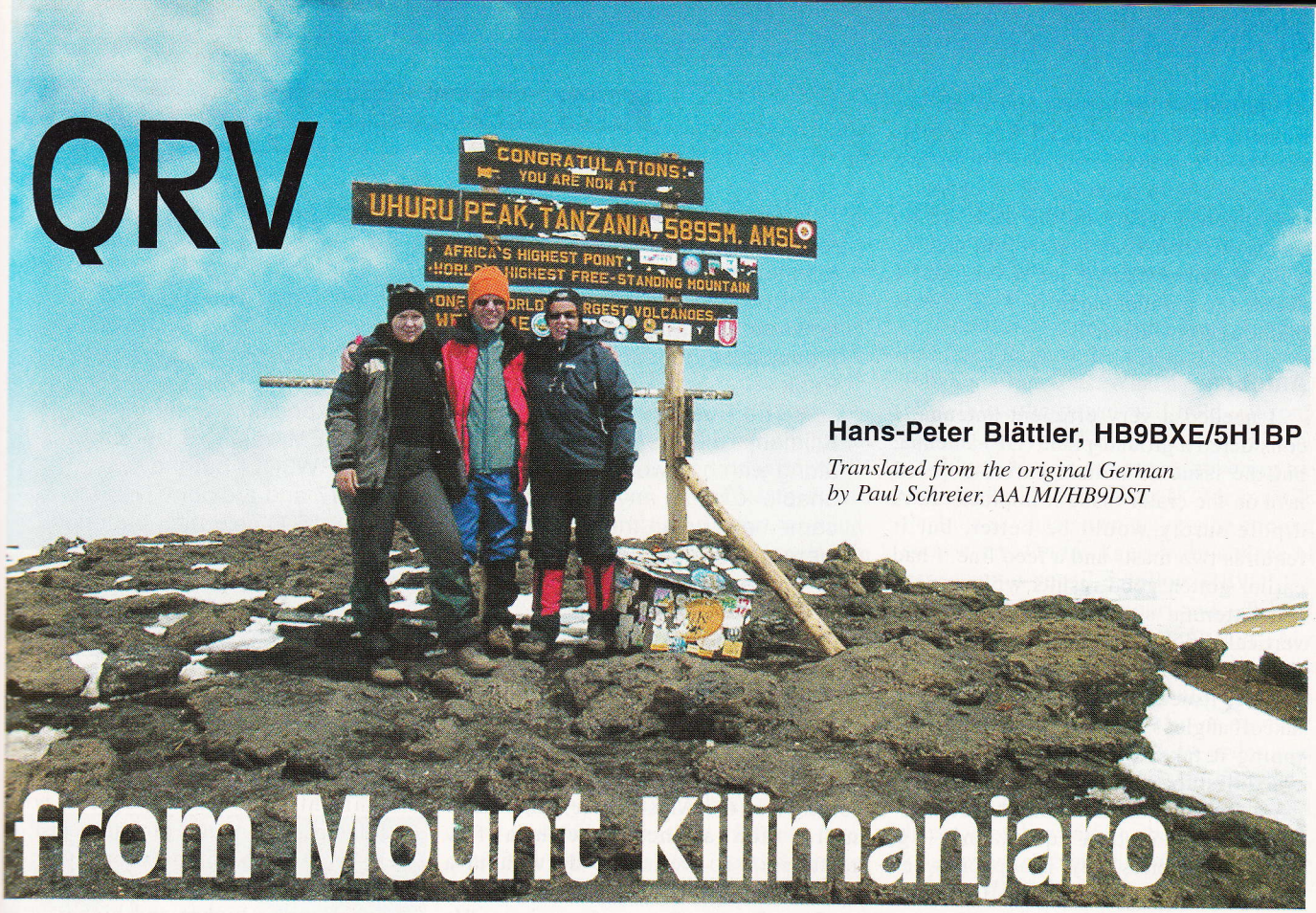
QRV from Mount Kilimanjaro



Hans-Peter Blättler, HB9BXE/5H1BP

Translated from the original German by Paul Schreier, AA1MI/HB9DST

Talk about a clear shot.... The goal was to operate from Uhuru Peak, the highest point in Africa.

How does someone ever come upon the idea to work the world from Mount Kilimanjaro? It's always been my dream to climb this, the highest mountain in Africa at 19,340 feet. Thirty years ago during a cross-continental trip in my VW bus with my wife Maya, we circled around this volcanic mountain and were able to behold the postcard view with a giraffe in the foreground and snow-covered Mount Kilimanjaro in the background.

I sought a travel agent who could organize such a trip to "Kili." Most agencies combine a climb on Kili with a safari in East Africa's world-famous animal preserves, but I had spent several weeks in these refuges during my first visit to Africa. Further, I'm an avid scuba diver, so after the climb on Kili I planned a week's vacation on the island of Zanzibar where I could help many get a somewhat rare DX country.

The License

So how do you get a 5H license? I surfed the Internet for information about past amateur activities and wrote to those who had been active from 5H-land. Almost all wrote back. Most of them were in Tanzania on business, whether as a physician or a member of the UN. I also learned you can't get a license through the mail—you must pay in person at the TCC (Tanzania Communications Commission) for an application form.

One response mentioned a Mr Hamisi Abdulrahman, who works at the UN. Three months before my departure I sent Hamisi a letter with some funds and the request that he pick up and mail me an application form. I also needed two letters of recommendation, which Willy, HB9AHL, and Joe, HB9AJW, were kind enough to write.

I was thinking only about getting on the air from Zanzibar when Willy, HB9AHL, infected me with the virus/idea that I should get on the air from Kilimanjaro, as well. He added that this might possibly be the first ham radio activity of this type ever (see sidebar, "The First Ham Expedition from the Top of Kilimanjaro?").

Preparations and Equipment

Next, with the help of two African beacons—5Z4B in Kilifi, and ZS6DN in Pretoria—I started to investigate which were the most reliable frequencies and best times of day. I also became familiar with two radio-forecasting programs, *Prop* from W6EL, and another from HB9BIG. Research on the DX clusters showed that only the 20 and 15 meter bands would come into play. However, 15 opens to Europe only after 0815 UTC, and we would theoretically reach Kilimanjaro at 0500 UTC. A delay isn't possible because the weather turns bad daily at about 0800 UTC, and besides there wouldn't be sufficient time to start back down.

Another major consideration was weight. My equipment would have to be simple and lightweight with a high-efficiency antenna I could erect quickly. Further, I quickly deduced that my favorite QRP equipment was inadequate,

so I purchased the lightest 100 W HF rig I could find, a Yaesu FT-857, which weighs 4½ pounds. According to my experience with beacons, 50 W of transmitter power would do the trick. To be on the air for half an hour would require a 12 V battery rated for 6 Ah, and I decided to parallel a pair of 3 Ah NiMH batteries from Varta.

Antenna

I needed a very efficient antenna. I considered a ground-plane (GP) antenna, but the issue of radials on ice-covered lava on the crater made it impractical. A dipole surely would be better, but it requires two masts and a feed line. I had earlier gotten good results with an end-fed antenna, so I tested an "end-fed vertical dipole." It has good efficiency, the point of peak radiation is in the middle, it needs no radials, and its low takeoff angle is good for DX. Feeding and tuning it takes place through a simple coaxial stub, eliminating the need for extra feed line or an antenna tuner.

The total station equipment—rig, antenna, batteries, key, headphones and cables—weighed less than 10 pounds including the carrying bag.

The Climb atop Kilimanjaro

"Jambo, Jambo!" our guides greeted us. We set off at 0900 local time from the Marangu Gate at approximately 5900 feet. The first day you climb to 8858 feet in roughly 5 hours through thick rainforests. Day 2 brought us to the tree line at roughly 10,500 feet, and here you first get a wonderful panorama. We also learned that mountain climbers on their way to the peak the day before turned back due to a half meter of fresh snow. After 7 hours we reached the Horombo Hut at 12,200 feet. The standards of these mountain huts aren't comparable to those in the Alps—there's not much more than a shelter with a few mattresses, so we had to do without a comfortable fire.

Day 3 was for acclimation. We marched to the "Mawenzi Saddle" at 13,780 feet and returned to the Horombo camp. On Day 4 the air got much thinner—as did the vegetation, which departed for good at about 14,100 feet and brought us to a desert-like lunar landscape. Here you hardly notice that the terrain climbs quite steeply, so you're wondering why you're moving ever more slowly and, even so, are out of breath. In the evening we reached the Kibo Hut at 15,430 feet. After supper we crawled tired but nervous into our sleeping bags in the early evening.

Day 5—our final ascent! After a short night's rest, we set out at midnight by moonlight. You can't see far with headlamps, and that's probably just as well—you climb up an extremely steep serpentine path along a very soft sandy channel, going higher and higher...I'm doing amazingly well. A few members of our nine-person group have steady headaches. "It's quite normal for you to get nauseous at around 5200 meters [17,060 ft]," says our guide. That, fortunately, is something I managed to avoid.

"Pole, pole!" (Slowly, slowly!) is the magic word. It's freezing, everybody complains about cold feet, but close to 0600 we detect the sun's first warm rays. At about 0745 we reach Gilman's Point at 18,652 feet. Whoever has stood here has climbed Kilimanjaro!

The First Ham Expedition from the Top of Kilimanjaro?

It was only after the trip that I asked myself this question. Based on research on the Internet, as of this writing I am aware of the following Kilimanjaro ham-expeditions:

- Bob Leo, W6PBV, in 1948/1949 was the first licensed radio amateur to reach Gillman Point and make a contact, then with WØLHS, a couple of thousand meters under Kili. W6PBV did not reach Uhuru Peak.
- The Russian Robinson Club started an expedition to the top of Kilimanjaro December 3-16, 2003. Andy, RZ3EM, reached Uhuru Peak, along with his two colleagues, RW3GW and RW3GU, but they were unable to make any contacts with their FT-817 and a dipole. Nobody came back when they called CQ, and in the –15°C cold their batteries were soon dead.

The author will gladly accept any additional information on this topic at **hb9bxe@uska.ch**.

Figure 1—Our travel group: nine participants and two native mountain guides.

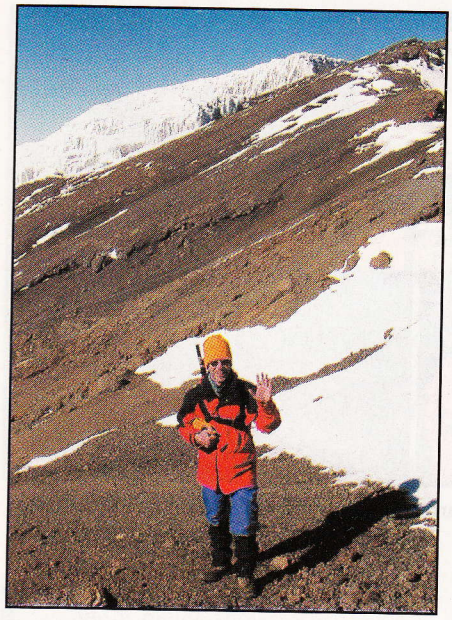


Figure 2—Along the crater's edge you go up to the highest point of Kilimanjaro, Uhuru Peak at 5896 meters above sea level.

Figure 4—5H1BP is QRV from the highest mountain in Africa, and may be the first DXpedition to make contacts from the summit of Kilimanjaro.

At the Top

My half of the group marches farther across the crater rim and up to Uhuru Peak. The other half soon starts their descent because headaches and altitude sickness quickly get worse with time at this height. After another 1½ hours we reach the highest point, Uhuru Peak at 19,345 feet ASL. The panorama is stunning! We look down through two layers of clouds into the plains.

After a photo session it's time to put up the antenna. Hopefully nothing got lost along the way. For mast supports I use twine and plastic bags filled with lava stone. Soon my vertical dipole was standing proud on top of the highest mountain in Africa.

Are the batteries okay? I last charged them a day before leaving home. They're warm enough because I carried them under my shirt—otherwise they'd hardly deliver the desired power at a "warm" sunlight temperature of –10°C (14°F). So now I've got to connect the batteries with the proper polarities. To keep the voltage drop as small as possible I left out fuses and brought the shortest possible cable, without polarity protection.

I'm QRV!

It's shortly after 0800 UTC, 1100 local time, and the other climbers who reached Uhuru Peak today have already started their descent. I'd like to turn on the FT-857 and monitor the band, but I hold out to conserve the batteries. Besides, I know that 15 doesn't open until at least 0815 UTC. While waiting I simply enjoy the magnificent view, but the weather is worrisome as some clouds pass low and fast over my head.

Finally it's time. I connect the batteries to the FT 857 with simple plastic screw-terminal wire splices. I press the rig's ON/OFF switch; at home I had already programmed the sked frequency of 21.222 MHz, SSB. I can hardly believe it—I hear Sigi, HB9DLE, loud and clear. I wait until he pauses for a moment, and I send out a call saying that 5H1BP is QRV. Will HB9DLE hear me? Or will I be disappointed—along with all my ham buddies at home who have taken the time today to be on frequency?

Great! Sigi comes right back, sends a 5×5, and tells me he's prepared a list of roughly 50 stations. What a great feeling! Hopefully, the power will hold out long enough, as it could take quite a while....

Why is Hosea, my guide, covering me and my station with his coat? Meanwhile the blue sky has given way to the coming snowstorm. On my knees with a piece of paper and a pencil, I follow HB9DLE's lead and exchange a report and a "hello" with one station after another. My pleasure is enormous as I hear so many familiar voices. A pileup builds and total chaos reigns—but only for a moment because Sigi puts things in order and explains to the unknowing stations what's going on. Fading is quite strong, just as I detected earlier with the beacons. In fact, today even the beacon is weak according to Joe, HB9AJW.

In the meantime a full snowstorm is roaring. Everything is full of snow, my knees have fallen asleep, and I tell Sigi I'm going to shut down. Again and again hams come on frequency looking for a contact, which I want to give them, but at the end I can only give them a quick report on the momentary conditions on Kilimanjaro because already too much time has passed. There's nobody else visible on Uhuru Peak. I've got to stop now, but I'm pleased that the final QSO is with my friend Toni, HB9BNP. After 50 QSOs I make a final transmission, "*Tschüss zäme* (Swiss German for 'so long, everyone!') from Uhuru Peak, Kilimanjaro, 5H1BP is going QRT."

Descent to Horombo Camp

It's time to pack up, and much of my gear is covered with fresh snow. The antenna quickly breaks down into pieces, but I can barely unwrap the electrical tape, my fingers are so stiff. I finally get everything into my pack and we can descend. We hurry to catch the group. Even though we're headed down the mountain, we run out of breath. "Just don't slip; don't sprain an ankle," I say to myself.

Soon, near the Hans Meyer Cave my guide and I meet the group and tell them with satisfaction that our ham radio adventure was a success. The return trip takes place in a relative trance; fatigue has caught up with us. After two hours

Figure 3—The equipment is ready. The thick white cable shows the quarter-wave matching stub, connected to the lower end of the vertical dipole.

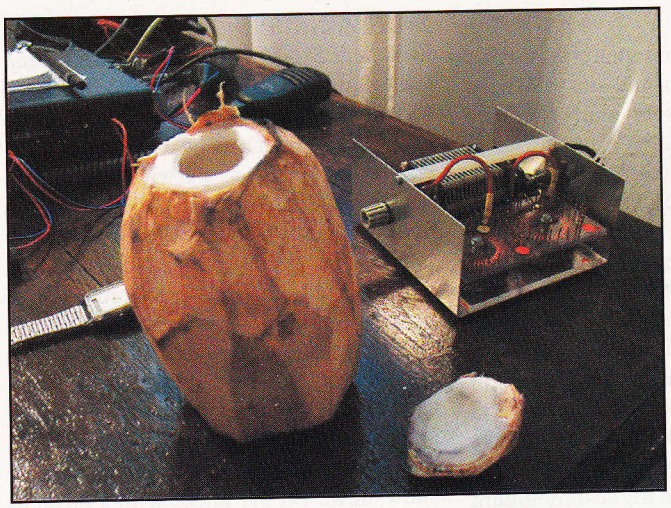


Figure 5—Impressions of the station on Zanzibar. In the background is the small symmetrical matchbox with the attached feed line, 300 Ω TV cable.

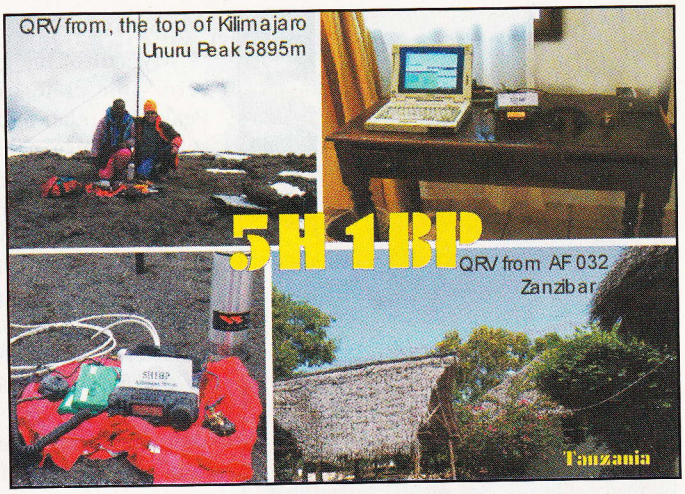


Figure 6—The QSL card from the mini-expedition to Kilimanjaro and Zanzibar.

we reach the Kibo Hut and get some rest along with tea and biscuits. It's still snowing, so soon we set off for the rest of the trip back to the Horombo Hut. We're all doing well. Here at 12,140 feet the air is nice and thick.

Day 6 brings us down the mountain after a 14.3 mile climb back to our departure point, Marangu. Happy and tired, we first enjoy a shower. Then comes the celebration of reaching the peak with the entire crew who carried our materials, and after a couple of beers we all fall asleep for a good 10 hours.

I would like to extend my heartfelt thanks to:

- Sigi, HB9DLE, without whose help this adventure never would have been successful. Running one of the best-equipped HF stations in Switzerland, Sigi heard those weak stations the average ham wouldn't pick up. Further, he has the fantastic gift of being able to manage a pileup.
- Willy, HB9AHL, and Joe, HB9AJW, for their letters of recommendation.
- Hamisi from Dar Es Salaam, who was a great help in getting my license. Hamisi is also a ham and until four years ago was the QSL manager for Tanzania. He's successfully completed the course work to get his ticket in Tanzania, but the regulations there dictate that only people with a rig get their own call sign. Perhaps someone could help Hamisi get a gift of a used rig? Anyone who would like to lend a helping hand, please get in touch with me.

QRV from Zanzibar, IOTA AF032

At the end of the Kili adventure I spent a week relaxing on the Spice Island of Zanzibar. I was on the air for four days after making the necessary inquiries (and giving the appropriate tips) to the hotel manager. AF032 appears to be much in demand, because each day a small pileup built up. My equipment was the FT-857 at 100 W, a Windom antenna between bungalows, 300 Ω TV feed line and a homebrew symmetrical double-L matchbox. Working on 10 to 40 meters, I logged more than 2700 QSOs. Heartfelt thanks to all those I contacted.

Photos by the author.

Hans-Peter Blättler, HB9BXE, works as a development engineer for a company that manufactures electronic compounds for fuses, switches and connectors. He's been an Amateur Radio operator since 1975, and he uses this hobby mostly for building homebrew equipment and experimenting with circuits. He's designed and built his entire station by himself, and he enjoys participating in CW contests. Aside from his family, he has two main hobbies: ham radio and bicycling—he once rode a bike from Lucerne to Palma de Malaorca, and every midday was QRV with 1 W to stay in touch with his family. Hans-Peter was also a member of the DXpeditions to St Brandon, 3B7RF, and Agalega, 3B6RF, serving as team leader for the latter. Earlier this year, he participated in the 3YØX DXpedition on Peter I Island. You can reach the author at **hb9bxe@uska.ch**.

Strays

QST congratulates...

◊ Dr J. Allan Wolf, K6JW, on the publication of his book *Spacebraid and Other Tales of a Dystopian Universe*. The novel is a collection of science-fiction stories, the longest of which, titled *Spacebraid*, uses Amateur Radio as a critical plot device. The book is available through multiple sources, including any of the major on-line booksellers such as **Amazon.com** or **BarnesandNoble.com**. It may be ordered on-line direct from the publisher, Xlibris, at **www2.xlibris.com/bookstore/bookdisplay.asp?bookid=23212**.

◊ Jack Mandelman, K1VT, on recently marking a career milestone with the issuance of his 300th US patent. Dr Mandelman retired from a 27 year career in microchip technology research and development with IBM in 2002. He is recognized as one of IBM's most prolific and decorated inventors, having been named "leading inventor" at IBM for five consecutive years (1998-2002). His patent portfolio represents significant contributions to the advancement of the state of the art of semiconductor technology. He presently consults for the semiconductor industry.

Feedback

◊ The Micro Engineering Labs Web site referenced in "A CTCSS Tone Encoder with Morse Code Readout" [July 2004, p 34] should be **www.melabs.com**.