WAY UP

Equipping a Ceylon VHF Repeater Station

BY JOHN PALMER
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"ENGINEERS ASSIGNED to this contract should be young and of active habit", ran the preliminary report. At intervals, photographs of wild countryside and precipitous hills had been arriving in the Division, with tales of bears, leopards and leeches, and it was with some misgivings that we set off for Ceylon to install the VHF Multiplex equipment with its mountain-top repeater. The project is to establish for the Royal Navy a VHF multichannel radio telephone/telegraph link between Colombo, the capital of Ceylon, on the south-west coast, and Trincomalee, the Royal Naval base a hundred and fifty miles away on the north-eastern coast of the island. The route crosses the mountains, the tea plantations on the hills, and the lowland jungle areas.

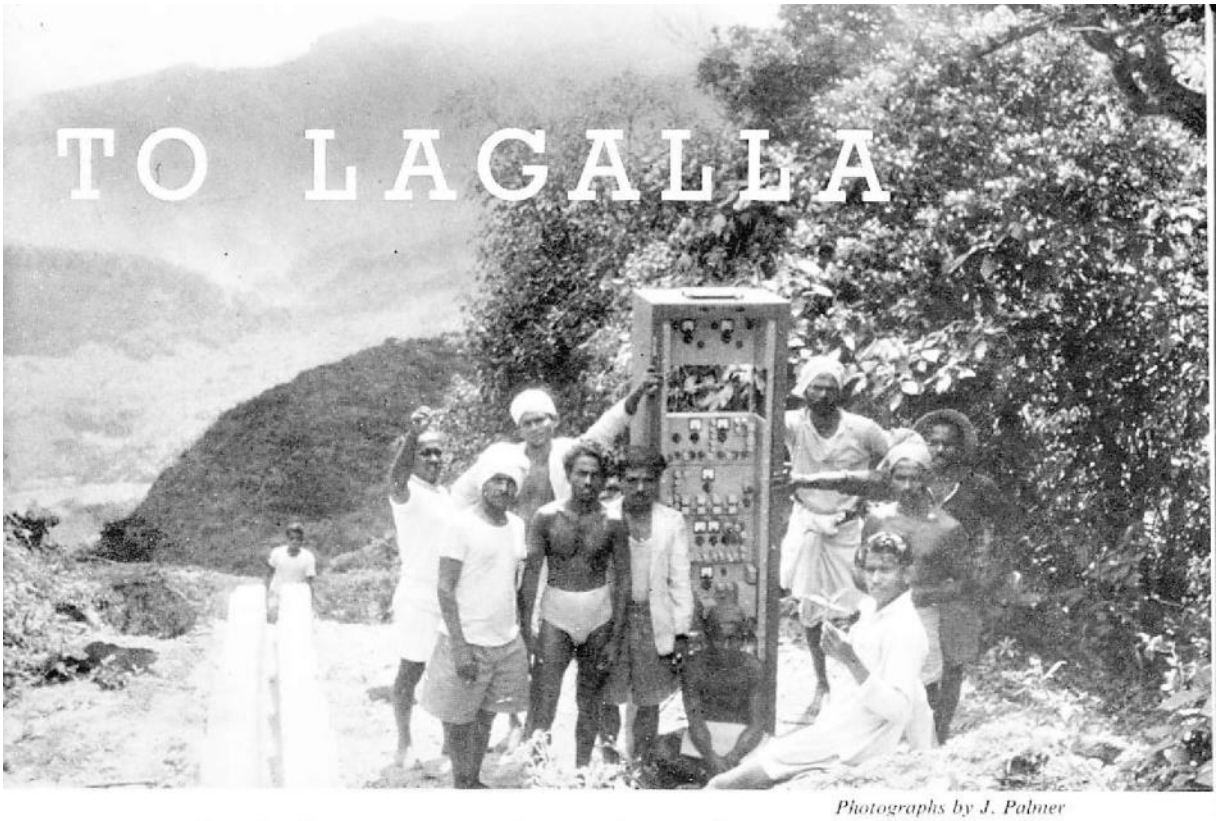
The reports of bears and leopards later proved to be unfounded but those of leeches were certainly not.

Up on the steep face of Lagalla, the highest point in the system, a repeater station has been built on solid rock with a heavy duty aerial tower to withstand winds which rise at times to velocities of over a hundred miles an hour.

The equipment of this link provides twelve channels. Nine are for normal telephone circuits and three will carry forty-two Voice Frequency Telegraph sub-channels, an unusually high number of VFT's to be installed in a single link. It has all been designed and built by our Company and sent out here from Chelmsford.

Colombo is a typical tropical port, a pleasant, busy city with a hot and damp climate. We spent a few days there and then set out for the repeater site. We found nothing tropical about that. After leaving the hill town of Kandy, where you may remember the Queen visited the Temple of the Tooth of Buddha, we really started climbing. The road grew narrower and more precarious as the cars wound round hills whose slopes were covered with the uninteresting drab green of tea plantations. When we reached the bungalow where we were to stay it was already cold and the clouds were scudding low overhead. The driver of the leading car got out and warned us to keep well clear of him up the hairpin bends.

Our first view of the site was not inspiring; we were in thick cloud. It was not until we had a clear day a week later that we realised what a fine spot it was.



Photographs by J. Palmer

It's a case of manhandling equipment up the steep slopes to the repeater station on Lagalla in Ceylon. Opposite, a coolie team bringing up the HM 155 repeater cabinet, and in this picture they have a well-earned rest before going on up the next stage

We could see right across the island to Colombo in the west and Trincomalee in the east. Down in the valley the cloud lay over the tea plantations; north and south lay an irregular range of mountains, and to the east the jungle stretched to the sea.

We had not, however, come to admire the view. On this hilltop was to be the repeater station, the concrete pillbox built to stand up to the monsoon gales, and the stumpy heavy-duty tower for the aerials. At the base of the hill, at the nearest approach of the road, was the power house. The Admiralty had made a concrete chase with rough steps for the power cable.

The equipment soon started to arrive, in small trucks which could negotiate the hairpin bends. The first load was carried up the hill, and our walkie-talkie brought into action. We soon found that the coolies had their own ways of carrying things. We would send two men with a box between them, but found that they immediately hoisted it on to one man's back while the other walked behind as a relief. We also found, after a few puzzling situations, that when they shook their heads it meant "yes".

All went well and all the small boxes were carried up. For the big crates we had a winch and a complicated system of wires, ropes and pulleys. The hills echoed with shouts and whistles and the chanting of the winch men, and the first crate moved slowly up the slope.

One evening a message arrived that one of the trucks was off the road at Rattota, a nearby village. We set off to investigate, and found the lorry with a diesel engine crate on board and two wheels off the edge of a culvert. A steel girder was wedged in to prevent it from capsizing completely. A group of villagers stood round, and two men were laboriously lifting one corner with a small car-jack and packing it up with a

Looking over the tea country, as far as the eye can see, from the top of the aerial tower

Rolling cloud produced real English weather while the big winch was being pulled up to its position on the slope. The winch was needed for the cable hoist

wobbly pyramid of small stones. We took one look at the scene and set off to search for a breakdown truck.

Of course it was Saturday and our attempts to get the breakdown truck from Matale, the nearest big town, were not successful. After much searching and arguing we gave up the struggle and telephoned our agents in Kandy to send one up. We then returned to the scene of the crime, to find no lorry. A large pile of stones and a lot of mud bore witness to the amazing capability of these people to accomplish miracles with a minimum of primitive tools.

We got a nasty shock when the drums of cable arrived. Each weighed over two tons, the cable itself being in lengths of 275 yards weighing one and three-quarter tons. We looked up the hill, at the cable, then back at the hill, and wondered.

After a false start when the bar through the centre of the drum collapsed, the lift began. At first it was easy. The coolies spaced themselves every few yards and the drum began to turn. But when the leaders got out of sight difficulties arose. Some would be trying to pull while others were resting, and all were shouting abuse (we presumed) at the tops of their voices. The leaders would stop for a while and immediately the chain of men would disintegrate into little groups. When the leaders started again they would finish their conversations and then spread out. But by the time all the men were back in position the leaders would have stopped pulling in despair. Eventually, after much blowing of whistles, shouting, interpreting and demonstrating, the men realised what was required, but by that time Douglas Young had traversed the slope several times and was keeping his temper with difficulty.

The diesel engines were hauled into position in the power house and the installation began. The monsoon was nearly due and it was a race to assemble and erect the aerials before the weather became impossible. Luckily, all the outside work was finished in time, and the day came when, amid cheers, the Pelapone engineer started his engines and the lights came on.

When we left the station to start on the terminals the monsoon had really broken. Water cascaded from the roof, the wind howled in the tower and shrieked in the aerials. We turned our backs and started down the hill, and after a few steps it was hidden in the swirling mist.

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The end of a journey. A cabinet being carried through the door to its resting place in the repeater building. This concrete pillbox which houses the equipment is built to withstand the fierce monsoon gales

Fifty coolies strung out along the cable assisted the winch which was used for the first part of the lift. Each length of cable measured 275 *yards and weighed one and three-quarter tons. Lift control was by whistle*