CHAPTER 7 - IMPROVING COMMUNICATIONS

General

Many improvements to the facilities provided by both 110 Signal Squadron and 104 Signal Squadron were begun in 1968 and most came to fruition towards the end of the year.

Force and Rear Links Communications

The new AUSTCAN transmitter station was installed in a site at Nui Dat and began continuous operation on 9th August 1968. No doubt this relocation received some impetus from the attack on the station at Phu Tho. Whilst Engineers completed construction of the transmitter building and generator shed, a team from 127 Signal Squadron, with help from technicians and riggers of 110 Signal Squadron, did the installation and construction of Type 1 rhombic antennas. Shortly after the station began operations the construction of a horizontal log periodic antenna (LPA) was started. The location of large antennas in the Nui Dat area was not an easy decision because of the many helicopter landing zones.

Photo 7.1 - LPA Antenna at Nui Dat (1970)

At Long Binh all the aerial feeders and power cables for the AUSTCAN receiver station were buried and the long planned construction of Type 1 rhombic antennas begun by August 1968 and completed the following month. When the receivers were first moved from Tan Son Nhut to Long Binh, US aerials were used but, not being

oriented towards Australia, signal strength was not optimums.

An alternative 4 channel SSB transmitter/receiver station was constructed at Vung Tau on Logan Hill, named after Signalman B.A. Logan of 145 Signal Squadron who was killed in action in 1967 whilst attached to a US unit. The station was brought into service in May 1968 using temporary antennas but these were replaced before the end of the year with log periodic antennas, a vertical for transmit and a vertical and a horizontal for receive.

Photo 7.2 - LCpl Badcock (front) working in SYSCON room at Nui Dat (1971)

Whilst the installation team from 127 Signal Squadron was in Nui Dat to install the AUSTCAN transmitter station it installed a new system control room, with further work undertaken by 110 Signal Squadron after the detachment returned to Australia in September. The detachment also did the technical installation of Klienschmidt telegraph equipment in the 104 Signal Squadron communications centre. In all, this detachment, and the rigger detachment of 127 Signal Squadron which stayed in theatre some weeks longer, had a very busy period resulting in substantial improvements in communications within the theatre and to Australia.

Photo 7.3 (left) - COMMCEN Traffic area of 104 Signal Squadron (1971)

Photo 7.4 (right) - US Communication installation on VC Hill, Vung Tau (1968)

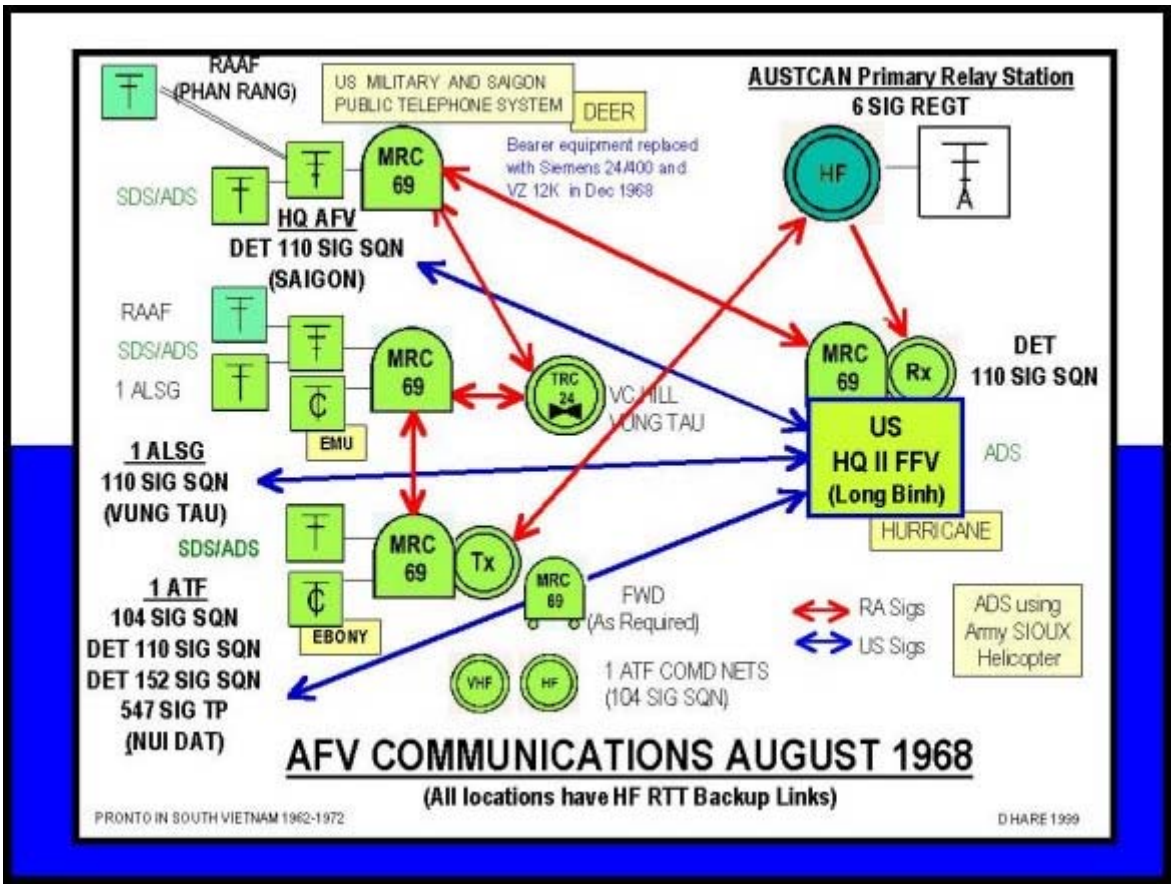

Diagram 7.1 - AFV Communications (August 1968)

These improvements to the fixed communications were no doubt appreciated by 6 Signal Regiment in Watsonia and by 135 Signal Squadron in Canberra who sent and received much of the rear link traffic. That squadron also manned the Army Headquarters end of the secure telex conference circuit, a well used facility.

Line

A major project under the direction of Warrant Officer Class Two John Ring was the replacement of all the field cable in Nui Dat with permanent underground cable. Work started at the beginning of 1968 with a line detachment from Australia helped by 104 Signal Squadron. By February 1968, 3 trench digger plants were being used. Failure of some of this plant led to local construction of a mole plough. However it was not until July that the cutover to the permanent cables was effected, resulting in a very marked improvement.

Line in the Vung Tau area had been rehabilitated earlier in the year. The requirement for line for telephones had grown substantially since the force first arrived. By August 1968, EMU switchboard had connected 166 CB lines, 53 magneto lines and 7 dial lines, with a further 6 direct "hot lines" connected through EMU frame. The average daily call rate was 6000 before the end of the year. EBONY switchboard had just under 100 subscribers with a further 47 on the switchboard in the 1 ATF command post (EBONY CP).

Bearer and Keying Circuits

In-theatre trunk circuits were quite an assortment, Australian laid line, Australian AN/MRC-69 radio relay, US microwave and line and Australian VHF bearer equipment. The line was not reliable, there was interference on VHF radio systems, and US hired circuits had to await circuit restoration priorities in a large system. Despite this, circuit availability was 95% and higher.

Some of the line around Saigon had been superseded by the AWA 4FJ VHF bearer equipment. Initially it was used for keying from the FWMAO building to the Ba Queo receiver station at Tan Son Nhut. This station came under attack on 30th January 1968 in the Tet offensive and so it was completely evacuated and relocated at Long Binh with the US STRATCOM receivers. This freed the 4FJ bearer to go to the transmitter station on 3rd February 1968 to replace the line circuits. However, interference coupled with inflexibility in frequency changing led to this equipment being closed down before the end of the year.

In April 1968, 110 Signal Squadron began tests with Siemens Halske FM 24/400 bearer equipment and VZ 12K channeling equipment which was in AUSTCAN service in Australia. Some encouraging results were obtained and installation of the first equipment began in December 1968 on the Saigon-Long Binh circuit. It was remarkably better than any other bearer system in the theatre.

Task Force Signals

The radio facilities operated from the Nui Dat feature by 104 Signal Squadron and other task force units had grown without any master plan. In August 1968, 104 Signal Squadron began a major rebuilding program to provide for its own radio requirements, the radio relay equipment of 110 Signal Squadron and the requirements of other units, including Artillery.

It involved considerable earthworks, bunkers, shelters and accommodation buildings, all sand-bagged, and an SAL block. At the time 1 ATF operations did not involve deployment of a headquarters away from the base, leaving some capacity in 104 Signal Squadron to undertake this new work with help by sappers. By December 1968 it was completed except that the "other units" had to install their equipment.

Photo 7.5 - 104 Signal Squadron members digging the COMMCON bunker
(Late 1968)

An M577-A1 Armoured Command Vehicle '85 Charlie' was allocated to 104 Signal Squadron for use as a forward signal centre. It was first used in Operation CAPITAL II in November 1968 (deployed to FSPB Lion). In addition to its normal VHF radio fitment, it was equipped to provide a secure duplex RTT circuit from HQ 1 ATF (Main) to HQ 1 ATF(Rear), a secure simplex RTT circuit from HQ 1 ATF (Main) to 1 ALSG (Forward), HF back up circuits and the EBONY Forward switchboard. A commercial air conditioner was also fitted. It proved to be eminently successful, equipment failures due to overheating were virtually eliminated whilst the speed of setting up communications equipment in a forward area, including interconnection

via snap lock multi-pair cables to the other command vehicles (operations, artillery and air) and radio relay tails, and the elimination of the need to construct a SIGCEN bunker were especially important.

Photo 7.6 (left) - LCpl Malcolm Fergusson manning HF RTT Link - AN/GRC-106 (left), TT-4 (centre) and KW-7 (right) (1968)

Photo 7.7 (right) - Members of 104 Signal Squadron loading sandbags at the Baria sand pit (1968)

Diagram 7.2 - Communications Operation CAPITAL II (November 1968)

Photo 7.8 - 104 Signal Squadron ACV deploying to FSPB Lion (Nov 1968)

Another activity, whilst not concerned with communications but certainly affecting the task force signal squadron, began in 1968. On 27th December 1968 the squadron began providing complete section-size patrols for one or two days each outside the 1 ATF base perimeter. In June 1970 on the second afternoon of a patrol under the command of Squadron Sergeant Major Warrant Officer Class Two Anthony Huston some enemy were observed about 4 kilometres east of the task force base. They were engaged with small arms fire of the patrol and by artillery fire, shortly after, at 1700 hours, two gunships began supporting the patrol and estimated that there were about 20 in the enemy party. The patrol was then engaged from three sides with small arms fire and it withdrew through several defensive positions it established while artillery fire was brought down and an APC mounted infantry platoon was dispatched to flush out the enemy.

Photo 7.9 - HQ 1 ATF, opposite 104 Signal Squadron, Nui Dat (1968)



Photo 7.10 (left) - Sig Russell Hopkin, 104 Signal Squadron, on patrol (M79 on bum pack) (early 1969)

Photo 7.11 (centre) - Sig Bob Johnson (manning M60 machine gun) and Sig Geoff Darcy on patrol, 104 Signal Squadron (early 1969)

Photo 7.12 (right) - LCpl Malcolm Fergusson (Claymore mines in bag) on patrol, 104 Signal Squadron (early 1969)

Consolidation

Whilst in mid 1967 intra-theatre and rear link communications just managed to meet day-to-day needs, the quality of some circuits was poor and reliability unacceptably low. It was the best that could be provided within the resources available to meet the demands placed on the communications system. The improvements obviously needed took time to plan and, when the equipment was available, time to install.

133 Signal Squadron (the Base Signal Park at Penrith) contributed here, and throughout the campaign. Described by those in Vietnam as ***"the best mail order firm in the business"*** it very rapidly met demands for all items it was responsible for supplying. There were often times when RA Sigs units in Vietnam wished it was responsible for the supply of all its technical equipment and spare parts.

Task force signals had few problems with field communications but the essentially fixed services within the base at Nui Dat hovered close to the same brink of disaster as communications elsewhere.

By the end of 1968 very substantial improvements had been effected to intra-theatre communications, the rear link to Australia and within 1 ATF. It was a time of consolidation and it provided a sound footing for continuing improvements during the remainder of the campaign.