TAIT TECHNICAL SUPPORT

Technical Note TN-782

An Explanation of the Nokia Actionet Numbering System

23rd July 2003

Applicability

This Technical Note applies to all Tait Trunked Terminal products.

Why Has This Been Written?

Technical Support has been asked to provide an explanation of the Nokia Actionet Numbering (ANN) system. The following document is a ***basic*** overview of ANN. It is ***not*** intended as a comprehensive explanation of ANN.

Contact Tait Technical Support if further information is required.

Information

Both Taitnet and Actionet dialling systems use MPT1327 on-air signalling. Where the Taitnet converts the MPT1327 idents to MPT1343, Actionet converts to its' own Nokia numbering.

ANN uses three fixed fleet sizes – Large, Small and Mini.
These three fleet sizes can accommodate the following number of individual/group addresses:-
Large - 700/99
Small - 70/10
Mini - 22/4

These are defined on a **per prefix** basis solely by the Fleet Partition Parameter (FPP) and the Miniaturisation Extent Parameter (MEP).
The number of Large fleets = FPP
The number of Mini fleets = MEP x 30

From these two numbers the number of Small fleets can also defined as equalling (10-(FPP+MEP))x10

The example on the next page **shows a single prefix** in which the FPP equals 6 and the MEP equals 1. It is possible for other prefixes to have a different mix of fleets.

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2	*802*	*1602*	*2402*	*3202*	*4002*	*4802*	*5602*	*6402*	Mini Fleet 790 *7202*
						Small Fleet 60	Small Fleet 70	Small Fleet 80	Mini Fleet 890
									Mini Fleet 990
						Small Fleet 61	Small Fleet 71	Small Fleet 81	Mini Fleet 791
									Mini Fleet 891
									Mini Fleet 991
						Small Fleet 62	Small Fleet 72	Small Fleet 82	Mini Fleet 792
									Mini Fleet 892
									Mini Fleet 992
						Small Fleet 63	Small Fleet 73	Small Fleet 83	Mini Fleet 793
									Mini Fleet 893
									Mini Fleet 993
						Small Fleet 64	Small Fleet 74	Small Fleet 84	Mini Fleet 794
									Mini Fleet 894
									Mini Fleet 994
Large Fleet 0	Large Fleet 1	Large Fleet 2	Large Fleet 3	Large Fleet 4	Large Fleet 5	Small Fleet 65	Small Fleet 75	Small Fleet 85	Mini Fleet 795
									Mini Fleet 895
									Mini Fleet 995
						Small Fleet 66	Small Fleet 76	Small Fleet 86	Mini Fleet 796
									Mini Fleet 896
									Mini Fleet 996
						Small Fleet 67	Small Fleet 77	Small Fleet 87	Mini Fleet 797
									Mini Fleet 897
									Mini Fleet 997
						Small Fleet 68	Small Fleet 78	Small Fleet 88	Mini Fleet 798
									Mini Fleet 898
									Mini Fleet 998
						Small Fleet 69	Small Fleet 79	Small Fleet 89	Mini Fleet 799
									Mini Fleet 899
801	*1601*	*2401*	*3201*	*4001*	*4801*	*5601*	*6401*	*7201*	Mini Fleet 999 *8001*

In addition, ANN has four numbering models - Small, medium, Large and Extended. Which numbering model is chosen depends upon the total number of subscribers and the number of prefixes used in the system. The following gives a summary of this:

- Small - 0 prefixes and up to 7000 individual addresses
- Medium - 0-9 prefixes and up to 70000 individual addresses
- Large - 0-99 prefixes and up to 700000 individual addresses
- Extended - 100-127 prefixes and up to 896000 individual addresses.

Numbers of allowed group addresses are similarly proportioned for all 4 numbering models.

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Each numbering model uses a fixed number of digits which enables it to call any other radio units in the system;
Small - 5 digits
Medium - 6 digits
Large - 7 digits
Extended - 8 digits

Also any unit in a radio's own fleet can be called by a 2 or 3 digit shortform number.

ANN allows any numbering scheme to be used with any fleet size.

Numbering Model				Fleet Division
Small	Medium	Large	Extra Large	
Five Digit Strings	Six Digit Strings	Seven Digit Strings	Eight Digit Strings	
Prefix 0 (no prefix)	Prefixes 0..9 (p = 0..9)	Prefixes 0..99 (P = 00..99)	Prefixes 100..127 (E = 00..27)	
7RUUU	7pRUUU	7PPRUUU	71EERUUU	Large fleets
7rruu	7prruu	7PPrruu	71EErruu	Small fleets
7rruu	7prruu	7PPrruu	71EErruu	Mini fleets
8rruu	8prruu	8PPrruu	81EErruu	Mini fleets
9rruu	9prruu	9PPrruu	91EErruu	Mini fleets

Where:
'rr' is small/mini fleet number
'uu' is unit/group number in small/mini fleet
'R' is large fleet number
'UUU' is unit/group number in large fleet

One of the disadvantages with the TaitNet (MPT1343) dialling model is that if an Out of Fleet call is received, the *called* party has no way of knowing the radio identity of the *calling* party. In the case of the T2040 "OFLT" is displayed on the LCD (unless the **full** radio address is in the Preset list in which case the appropriate label will be displayed).
The reason for the "OFLT" is that you do not know what the Fleet Individual Number (FIN) or Fleet Group Number (FGN) is or what the fleet size is, so you cannot convert the MPT1327 Ident to MPT1343 (hence the 'OFLT' display). The advantage, however, is that the use of an FIN/FGN means that MPT1343 fleets can be whatever size is appropriate or convenient for the system operator. This means fewer gaps and a more efficient use of the number space.

If call from another fleet is received on a Nokia Actionet System, however, the identity of the calling radio can be shown on the display (in the case of the T2040) if the FPP and MEP for that prefix have been programmed into the radio.

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Compliance	No Compliance Needed
CSO Instruction	This Technical Note is designed as an introduction for those not familiar Nokia Actionet Numbering. Please inform all logistics, sales and technical staff to distribute this document to any customer as required.

3. Issuing authority

Name and position of issuing officer	Paul Anderson Customer Support Engineer - Mobiles		
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