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BRUNEI INTERNATIONAL AIRPORT, BB2513

01/01
20TH SEPT

BRUNEI AIRSPACE WITHIN THE KOTA KINABALU FIR

IMPLEMENTATION OF THE REVISED ATS ROUTES STRUCTURE

1. INTRODUCTION

1.1 In view of the structure of the Brunei Terminal Control Area, which is situated within the Kota Kinabalu FIR, AIP Supplement 07/2001 dated 09 August issued by Malaysia for Kota Kinabalu FIR applies to Brunei Airspace. A copy is attached for ease of reference.

2. IMPLEMENTATION DATE

2.1 The revised route structure and procedures details will become effective from 1930UTC on 01 November 2001 and extend for aperiod of three (3) years.

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7 / 2001
9 AUG

IMPLEMENTATION OF A REVISED ATS ROUTE STRUCTURE IN KOTA KINABALU FIR

1. INTRODUCTION

1.1 The purpose of this AIP Supplement is to detail changes to the route structure within the South China Sea airspace and associated changes to navigation and flight notification requirements in support of reduced lateral separation minima between aircraft operating on certain designated ATS routes.

1.2 Most of the existing conventional ATS routes in the South China Sea area will be replaced with RNAV routes.

1.3 The revised route structure and procedures detailed in this AIP Supplement will become effective from 1930 UTC on 01 November 2001 and extend for a period of three (3) years.

2. REVISED ROUTE STRUCTURE

2.1 Details of the revised route structure applicable within Kota Kinabalu FIR are shown in Appendix A and Appendix B.

3. MONITORING OF AIRCRAFT NAVIGATION PERFORMANCE

3.1 Monitoring of aircraft navigation performance is a joint responsibility between operators, States of Registry or States of Operators (as applicable), regulatory authorities and the ATS providers. The detection and reporting of non-conformance with the navigation requirements against the following parameters will rely primarily on radar monitoring by ATC units.

Lateral deviations : a deviation of 15 NM or more from track centreline based on radar observations;

Longitudinal deviations :

(i) where time separation is being applied by ATC - when the reported separation based on ATC verified pilot estimates varies by 3 minutes or more from the expected separation at the reporting point; or

(ii) where a distance based standard is being applied by ATC based on either ADS, radar observation or RNAV distance reports - when the distance varies by 10 NM or more from the expected distance.

3.2 ATC will advise the pilot in command when such deviations are observed and implement the required investigation procedures.

3.3 The ATC authority will investigate the causes of such deviations in conjunction with the aircraft operator and the State of Registry, or the State of the Operator, as applicable.

4. SEPARATION MINIMA

4.1 Longitudinal Separation

4.1.1 80 NM RNAV or 10 minutes (or less) Mach Number Technique (MNT) separation minima may be applied between aircraft.

4.2 Vertical Separation

4.3.1 A vertical separation minima of 2,000 FT, including the use of non-standard levels, will be applied between aircraft operating at FL 290 or above, on the ATS routes.

5. OPERATORS PROCEDURES

5.1 The operator shall ensure in-flight procedures, crew manuals and training programmes are established.

6. WEATHER DEVIATION PROCEDURES

6.1 Weather deviation, shall be in accordance with the provisions contained in Malaysian AIP ENR 1.8 - 1.

7. APPENDIX

7.1 Appendix A : Details on segments of revised ATS routes within the Kota Kinabalu FIR

7.2 Appendix B : Lower and Upper levels of ATS routes – Kota Kinabalu FIR

7.3 Appendix C : Chart depicting new ATS route structure

8. IMPLEMENTATION DATE

8.1 The AIP Supplement is scheduled to become effective on 1 November 2001 at 1930 UTC.

9. CANCELLATION

9.1 This AIP Supplement will remain current until it is published in AIP Malaysia

DATO' IR KOK SOO CHON
Director General
Department of Civil Aviation
Malaysia

ATS ROUTE B348

Introduction

ATS Route B348 is a revised ATS route extending from OSANU (FIR BDRY) in the east through to the Kota Kinabalu FIR to KAMIN (FIR BDRY) in the west. The revised B348 is effective from 1930 UTC on 1 November 2001.

Route Description

OSANU (FIR BDRY)	074124N	1171736E	215°/035°	131 NM
VJN DVOR/DME	055400N	1160200E	228°/048°	93 NM
BRU DVOR/DME	045230N	1145254E	249°/069°	50 NM
50 DME BRU	043437N	1140607E	249°/069°	28 NM
SAKMA	042428N	1133955E	249°/069°	63.4 NM
DARMU	040139N	1124036E	249°/069°	241 NM
KAMIN (FIR BDRY)	023442N	1085536E		

Lateral Limits

The width of B348 from OSANU to KAMIN is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of B348 from OSANU to KAMIN is FL460. The lower limit of B348 from OSANU to KOTA KINABALU DVOR/DME (VJN) is FL135 ; from KOTA KINABALU DVOR/DME (VJN) to BRUNEI DVOR/DME is 6500 FT ALT. ; from BRUNEI DVOR/DME to SAKMA is 7500 FT ALT. ; from SAKMA to KAMIN is FL135.

Separation Minimum

The longitudinal separation between aircraft on this route is 10 minutes.

ATS ROUTE B584

Introduction

ATS Route B584 is an existing ATS route. The change to this route is the naming of the FIR boundary position. The revised B584 is effective from 1930 UTC on 1 November 2001.

Route Description

VINIK	083836N	1161348E	184°/004°	28 NM
NODIN (FIR BDRY)	081101N	1161142E	184°/004°	137 NM
VJN DVOR/DME	055400N	1160200E	184°/004°	110 NM
MAMOK	040506N	1154712E		

Lateral Limits

The width of B584 from VINIK to MAMOK is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of B584 from VINIK to MAMOK is FL460. The lower limit of B584 from VINIK to MAMOK is FL135.

Separation Minimum

The longitudinal separation on this route is 10 minutes between RNAV-equipped aircraft and 15 minutes between other aircraft.

ATS ROUTE B592

Introduction

ATS Route B592 is a revised ATS route originating at KOTA KINABALU DVOR/DME (VJN) to OKADA (FIR BDRY). The revised B592 is effective from 1930 UTC on 1 November 2001.

Route Description

VJN DVOR/DME	055400N	1160200E	218°/038°	80 NM
80 DME VJN	045105N	1151240E	218°/038°	32 NM
BUTAX	042613N	1145232E	218°/038°	38 NM
UDEGO	035550N	1142940E	218°/038°	90 NM
ALEMO	024545N	1133420E	218°/038°	91 NM
OKADA (FIR BDRY)	013400N	1123800E		

Lateral Limits

The width of B592 from KOTA KINABALU DVOR/DME (VJN) to OKADA is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of B592 from KOTA KINABALU DVOR/DME (VJN) to OKADA is FL460. The lower limit of B592 from KOTA KINABALU DVOR/DME (VJN) to UDEGO is 6500 FT ALT. ; from UDEGO to ALEMO is FL135 ; from ALEMO to OKADA is FL245.

Separation Minimum

The longitudinal separation on this route is 10 minutes between RNAV-equipped aircraft and 15 minutes between other aircraft.

ATS ROUTE G580

Introduction

ATS Route G580 is an existing ATS route. The change to this route is the naming of the FIR Boundary position and introduction of new reporting points. The revised G580 is effective from 1930 UTC on 1 November 2001.

Route Description

NIMIX	012454N	1075924E	089°/269°	31 NM
ATETI (FIR BDRY)	012542N	1083000E	089°/269°	109 NM
VKG DVOR/DME	012824N	1101830E	052°/232°	83 NM
PILAX	~~021908N~~	~~1123130E~~	052°/232°	110NM
SARVO	0326.5N	1125010E	052°/232°	88 NM
VMI DVOR/DME	042019N	1135928E	059°/239°	62 NM
BRU DVOR/DME	045230N	1145254E	048°/228°	93 NM
VJN DVOR/DME	055400N	1160200E		

Lateral Limits

The width of G580 from KOTA KINABALU DVOR/DME (VJN) to NIMIX is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of G580 from KOTA KINABALU DVOR/DME (VJN) to NIMIX is FL460. The lower limit of G580 from KOTA KINABALU DVOR/DME (VJN) to NIMIX is 6500 FT ALT.

Separation Minimum

The longitudinal separation between aircraft on this route is 10 minutes.

RNAV ROUTE M754

Introduction

RNAV Route M754 is implemented with effect from 1930 UTC on 1 November 2001. This is a new RNAV route from VINIK to BRUNEI DVOR/DME (BRU).

Route Description

VINIK	083836N	1161348E	200°/020°	38 NM
SUMLA (FIR BDRY)	080243N	1141554E	200°/020°	150 NM
VIDIP	054106N	1151003E	200°/020°	24 NM
UKIBA	051849N	1150209E	200°/020°	28 NM
BRU DVOR/DME	045230N	1145254E		

Lateral Limits

The width of M754 from VINIK to BRUNEI DVOR/DME (BRU) is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of M754 from VINIK to BRUNEI DVOR/DME (BRU) is FL460. The lower limit of M754 from VINIK to BRUNEI DVOR/DME (BRU) is FL135.

Separation Minimum

The longitudinal separation on this route is 10 minutes between RNAV-equipped aircraft.

RNAV ROUTE M758

Introduction

RNAV Route M758 is implemented with effect from 1930 UTC on 1 November 2001. This is a new RNAV route from OLKIT (FIR BDRY) to KOTA KINABALU DVOR/DME (VJN).

Route Description

OLKIT (FIR BDRY)	045012N	1115118E	077°/257°	140 NM
DOGOG	052518N	1140742E	077°/257°	65 NM
VIDIP	054106N	1151003E	077°/257°	53 NM
VJN DVOR/DME	055400N	1160200E		

Lateral Limits

The width of M758 from OLKIT to KOTA KINABALU DVOR/DME (VJN) is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of M758 from OLKIT to KOTA KINABALU DVOR/DME (VJN) is FL460. The lower limit of M758 from OLKIT to KOTA KINABALU DVOR/DME (VJN) is FL135.

Separation Minimum

The longitudinal separation on this route is 10 minutes between RNAV-equipped aircraft.

RNAV ROUTE M759

Introduction

RNAV Route M759 is implemented with effect from 1930 UTC on 1 November 2001. This is a new RNAV route from OLKIT (FIR BDRY) to BRUNEI DVOR/DME (BRU).

Route Description

OLKIT (FIR BDRY)	045012N	1115118E	089°/269°	181 NM
BRU DVOR/DME	045230N	1145254E		

Lateral Limits

The width of M759 from OLKIT to BRUNEI DVOR/DME (BRU) is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of M759 from OLKIT to BRUNEI DVOR/DME (BRU) is FL460. The lower limit of M759 from OLKIT to BRUNEI DVOR/DME (BRU) is 6500 FT ALT.

Separation Minimum

The longitudinal separation on this route is 10 minutes between RNAV-equipped aircraft.

RNAV ROUTE M761

Introduction

RNAV Route M761 is implemented with effect from 1930 UTC on 1 November 2001. This is a new RNAV route from SABIP to KUCHING DVOR/DME (VKG).

Route Description

SABIP	020942N	1075042E	106°/286°	41 NM
AGOBA (FIR BDRY)	015842N	1083000E	106°/286°	113 NM
VKG DVOR/DME	012824N	1101830E		

Lateral Limits

The width of M761 from SABIP to KUCHING DVOR/DME (VKG) is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of M761 from SABIP to KUCHING DVOR/DME (VKG) is FL460. The lower limit of M761 from SABIP to KUCHING DVOR/DME (VKG) is 6500 FT ALT.

Separation Minimum

The longitudinal separation on this route is 10 minutes between RNAV-equipped aircraft.

RNAV ROUTE M768

Introduction

RNAV Route M768 is implemented with effect from 1930 UTC on 1 November 2001. This is a new RNAV route from ASISU (FIR BDRY) to BRUNEI DVOR/DME (BRU).

Route Description

BRU DVOR/DME	045230N	1145254E	306°/186°	56 NM
DOGOG	052518N	1140742E	306°/186°	58 NM
ASISU (FIR BDRY)	055906N	1132048E		

Lateral Limits

The width of M768 from ASISU to BRUNEI DVOR/DME (BRU) is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of M768 from ASISU to BRUNEI DVOR/DME (BRU) is FL460. The lower limit of M768 from ASISU to BRUNEI DVOR/DME (BRU) is 6500 FT ALT.

Separation Minimum

The longitudinal separation on this route is 10 minutes between RNAV-equipped aircraft.

ATS ROUTE R223

Introduction

ATS Route R223 is a re-designation of the existing A334 originating from BRUNEI DVOR/DME (BRU) to AGSON (FIR BDRY). The revised R223 is effective from 1930 UTC on 1 November 2001.

Route Description

BRU DVOR/DME	045230N	1145254E	181°/001°	26 NM
BUTAX	042614N	1145232E	181°/001°	131 NM
AGSON (FIR BDRY)	021500N	1145124E		

Lateral Limits

The width of R223 from BRUNEI DVOR/DME (BRU) to AGSON is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of R223 from BRUNEI DVOR/DME (BRU) to AGSON is FL460. The lower limit of R223 from BRUNEI DVOR/DME (BRU) to AGSON is FL135.

Separation Minimum

The longitudinal separation on this route is 10 minutes between RNAV-equipped aircraft and 15 minutes between other aircraft.

ATS ROUTE W441

Introduction

ATS Route W441 is implemented with effect from 1930 UTC on 1 November 2001. This is a new ATS route that track from DOGOG to LABUAN DVOR/DME (VLB).

Route Description

DOGOG	052518N	1140742E	097°/227°	55 NM
UKIBA	051849N	1150209E	097°/227°	13 NM
VLB DVOR/DME	051725N	1151518E		

Lateral Limits

The width of W441 from DOGOG to LABUAN DVOR/DME (VLB) is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of W441 from DOGOG to LABUAN DVOR/DME (VLB) is FL460. The lower limit of W441 from DOGOG to LABUAN DVOR/DME (VLB) is FL135.

Separation Minimum

The longitudinal separation on this route is 10 minutes between RNAV-equipped aircraft and 15 minutes between other aircraft.

ATS ROUTE W442

Introduction

ATS Route W442 is implemented with effect from 1930 UTC on 1 November 2001. This is a new ATS route that track from OLKIT to MIRI DVOR/DME (VMI).

Route Description

OLKIT	045012N	1115118E	103°/283°	111 NM
SAKMA	042428N	1133955E	103°/283°	20 NM
VMI DVOR/DME	042019N	1135928E		

Lateral Limits

The width of W442 from OLKIT to MIRI DVOR/DME (VMI) is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of W442 from OLKIT to MIRI DVOR/DME (VMI) is FL460. The lower limit of W442 from OLKIT to SAKMA is FL135 ; from SAKMA to MIRI DVOR/DME (VMI) is 8500 FT ALT.

Separation Minimum

The longitudinal separation on this route is 10 minutes between RNAV-equipped aircraft and 15 minutes between other aircraft.

ATS ROUTE W443

Introduction

ATS Route W443 is implemented with effect from 1930 UTC on 1 November 2001. This is a new ATS route that track from KAMIN to KUCHING DVOR/DME (VKG).

Route Description

KAMIN	023442N ~~023442N~~	~~1085536E~~ 1025536E	129°/309°	106 NM
VKG DVOR/DME	012824N	1101830E		

Lateral Limits

The width of W443 from KAMIN to KUCHING DVOR/DME (VKG) is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of W443 from KAMIN to KUCHING DVOR/DME (VKG) is FL460. The lower limit of W443 from KAMIN to KUCHING DVOR/DME (VKG) is 6500 FT ALT.

Separation Minimum

The longitudinal separation between aircraft on this route is 10 minutes.

ATS ROUTE G334

Introduction

ATS Route G334 is an existing route that has been extended to SIBU in the Kota Kinabalu FIR. This route originates at KUALA LUMPUR DVOR/DME (VKL) and extends eastward via BUNTO to SIBU DVOR/DME (VSB). The revised G334 is effective from 1930 UTC on 1 November 2001.

Route Description

VKL DVOR/DME	024328N	1014417E	086°/266°	56 NM
SAROX	024802N	1024019E	086°/266°	59 NM
UKASA	025245N	1033901E	086°/266°	28 NM
VPT DVOR/DME	025459N	1040639E	096°/276°	92 NM
KIBOL (FIR BDRY)	025229N	1042805E	096°/276°	93 NM
BUNTO 023442N	024208N	1055953E	092°/272°	176 NM
KAMIN (FIR BDRY) ←	~~023442N~~	~~1085536E~~ 102553E	096°/276°	148 NM
PILAX 021350N	~~021908N~~	~~1123130E~~ 111326E	096°/276°	37 NM
VSB DVOR/DME	021454N	1115949E		

Lateral Limits

The width of G334 from KUALA LUMPUR DVOR/DME (VKL) to SIBU DVOR/DME (VSB) is 20 NM (10 NM either side of track).

Vertical Limits

The upper limit of G334 from KUALA LUMPUR DVOR/DME (VKL) to SIBU DVOR/DME (VSB) is FL460. The lower limit of G334 from KUALA LUMPUR DVOR/DME (VKL) to PULAU TIOMAN DVOR/DME (VPT) is 6500 FT ALT. ; from PULAU TIOMAN DVOR/DME (VPT) to KAMIN is FL240 ; from KAMIN to SIBU DVOR/DME (VSB) is 6500 FT ALT.

Route Designator Significant Points Coordinates	Track (Mag) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Class Refer ENR 1.4 - 1	Lateral Limits (NM)	Direction of Cruising Levels Odd / Even	Remarks Controlling Unit
1	2	3	4	5	6
[redacted]					
▲VINIK 083836N 1161348E					**Remarks :** No Pre Departure Coordination (No PDC) arrangement : Flights departing from aerodromes within Kota Kinabalu FIR via RNAV M754 will be cleared to FL270. Succeeding acft cleared to same level provided at least 10 mins longitudinal separation using Mach Number Technique with no closing speed. **Controlling Authority :** Kinabalu ACC - 126.1 MHz
	184° 004° 28 NM			↓	
▲NODIN (FIR BDRY) 081101N 1161142E					
	184° 004° 137 NM	FL 460 FL 135 MNM FL 140	20		
▲KOTA KINABALU DVOR/DME (VJN) 055400N 1160200E					
	188° 008° 110 NM			↑	
▲MAMOK 040506N 1154712E					

Route Designator Significant Points Coordinates	Track (Mag) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Class Refer ENR 1.4 - 1	Lateral Limits (NM)	Direction of Cruising Levels Odd / Even	Remarks Controlling Unit
1	2	3	4	5	6
▲KOTA KINABALU DVOR/DME (VJN) 055400N 1160200E					**Controlling Authority :** 1. VJN DVOR/DME - 80 DME VJN Kinabalu ACC - 126.1 MHz 2. 80 DME VJN - OKADA Kinabalu ACC - 128.3 MHz # except that part of ATS route within Brunei TMA - Brunei Approach - 127.1 MHz
	218° 038° 80 NM			↓	
Δ 80 DME VJN 045105N 1151240E					
	218° 038° 32 NM	FL 460 6 500 FT ALT MNM 7 000 FT			
▲BUTAX 042613N 1145232E					
	218° 038° 38 NM		20		
Δ UDEGO 035550N 1142940E					
	218° 038° 90 NM	FL 460 FL 135 MNM FL 140			
Δ ALEMO 024545N 1133420E					
	218° 038° 91 NM	FL 460 FL 245 MNM FL 250		↑	
▲OKADA (FIR BDRY) 013400N 1123800E					

Separation Minimum

The longitudinal separation on this route is 10 minutes between RNAV-equipped aircraft and 15 minutes between other aircraft.

Route Designator Significant Points Coordinates	Track (Mag) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Class Refer ENR 1.4 - 1	Lateral Limits (NM)	Direction of Cruising Levels Odd / Even	Remarks Controlling Unit
1	2	3	4	5	6
[redacted]					
▲OSANU (FIR BDRY) 074124N 1171736E					
	215° 035° 131 NM	FL 460 FL 135 MNM FL 140		↓	Controlling Authority : 1. OSANU - BRU DVOR/DME Kinabalu ACC - 126.1 MHz
▲KOTA KINABALU DVOR/DME (VJN) 055400N 1160200E	228° 048° 93 NM	FL 460 6 500 FT ALT MNM 7 000 FT			2. BRU DVOR/DME - DARMU Kinabalu ACC - 128.3 MHz
▲BRUNEI DVOR/DME (BRU) 045230N 1145254E	249° 069° 50 NM	FL 460 7 500 FT ALT	20		3. DARMU - KAMIN Kuching ACC - 134.5 MHz # except that part of ATS route within Brunei TMA - Brunei Approach - 127.1 MHz
Δ 50 DME BRU 043437N 1140607E	249° 069° 28 NM	MNM 8 000 FT			
Δ SAKMA 042428N 1133955E	249° 069° 63.4 NM	FL 460 FL 135			
▲DARMU 040139N 1124036E	249° 069° 241 NM	MNM FL 140		↑	
▲KAMIN (FIR BDRY) 023442N 1085536E					

Route Designator Significant Points Coordinates	Track (Mag) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Class Refer ENR 1.4 - 1	Lateral Limits (NM)	Direction of Cruising Levels Odd / Even	Remarks Controlling Unit
1	2	3	4	5	6
RNAV ROUTE M758					
▲OLKIT (FIR BDRY) 045012N 1115118E					**Remarks :** No Pre Departure Coordination (No PDC) arrangement : Flights departing from aerodromes within Kota Kinabalu FIR via RNAV route M758 will be cleared to FL310. Succeeding acft will be cleared to same level provided at least 10 mins longitudinal separation using Mach Number Technique with no closing speed. **Controlling Authority :** Kinabalu ACC - 126.1 MHz
▲DOGOG 052518N 1140742E	077° 257° 140 NM	FL 460 FL 135 MNM FL 140	20	↓	
▲VIDIP 054106N 1151003E	077° 257° 65 NM				
▲KOTA KINABALU DVOR/DME (VJN) 055400N 1160200E	077° 257° 53 NM			↑	
RNAV ROUTE M759					
▲OLKIT (FIR BDRY) 045012N 1115118E					**Remarks :** No Pre Departure Coordination (No PDC) arrangement : Flights departing from aerodromes within Kota Kinabalu FIR via RNAV routes M759/M758 will be cleared to FL310. Succeeding acft will be cleared to same level provided at least 10 mins longitudinal separation using Mach Number Technique with no closing speed. **Controlling Authority :** Kinabalu ACC - 126.1 MHz
▲BRUNEI DVOR/DME (BRU) 045230N 1145254E	089° 269° 181 NM	FL 460 6 500 FT ALT MNM 7 000 FT	20	↓ ↑	

Route Designator Significant Points Coordinates	Track (Mag) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Class Refer ENR 1.4 - 1	Lateral Limits (NM)	Direction of Cruising Levels Odd / Even	Remarks Controlling Unit
1	2	3	4	5	6
RNAV ROUTE M761					
▲SABIP 020942N 1075042E					**Remarks :** No Pre Departure Coordination (No PDC) arrangement : Flights departing from aerodromes within Kota Kinabalu FIR via RNAV route M761 will be cleare to FL280. Succeeding acft will be cleared to same level provided at least 10 mins longitudinal separation using Mach Number Technique with no closing speed. **Controlling Authority :** Kuching ACC - 134.5 MHz
	106° 286° 41 NM	FL 460 6 500 FT ALT MNM 7 000 FT	20	↓	
▲AGOBA (FIR BDRY) 015842N 1083000E	106° 286° 113 NM			↑	
▲KUCHING DVOR/DME (VKG) 012824N 1101830E					
RNAV ROUTE M768					
▲BRUNEI DVOR/DME (BRU) 045230N 1145254E					**Remarks :** No Pre Departure Coordination (No PDC) arrangement : Flights departing from aerodromes within Kota Kinabalu FIR via RNAV route M768 will be cleared to FL280. Succeeding acft will be cleared to same level provided at least 10 mins longitudinal separation using Mach Number Technique with no closing speed. **Controlling Authority :** Kinabalu ACC - 126.1 MHz
	306° 126° 56 NM	FL 460 6 500 FT ALT MNM 7 000 FT	20	↓	
▲DOGOG 052518N 1140742E	306° 126° 58 NM			↑	
▲ASISU (FIR BDRY) 055906N 1132048E					

Route Designator Significant Points Coordinates	Track (Mag) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Class Refer ENR 1.4 - 1	Lateral Limits (NM)	Direction of Cruising Levels Odd / Even	Remarks Controlling Unit
1	2	3	4	5	6
RNAV ROUTE M754					
▲VINIK 083836N 1161348E					**Remarks :** No Pre Departure Coordination (No PDC) arrangement : Flights departing from aerodromes within Kota Kinabalu FIR via RNAV route M754 will be cleared to FL270. Succeeding acft wil be cleared to same level, provided at least 10 mins longitudinal separation using Mach Number Technique with no closing speed. **Controlling Authority :** Kinabalu ACC - 126.1 MHz
	200° 020° 38 NM			↓	
▲SUMLA (FIR BDRY) 080243N 1141529E					
	200° 020° 150 NM	FL 460 FL 135	20		
▲VIDIP 054106N 1151003E					
	200° 020° 24 NM	MNM FL 140			
▲UKIBA 051849N 1150209E					
	200° 020° 28 NM			↑	
▲BRUNEI DVOR/DME (BRU) 045230N 1145254E					

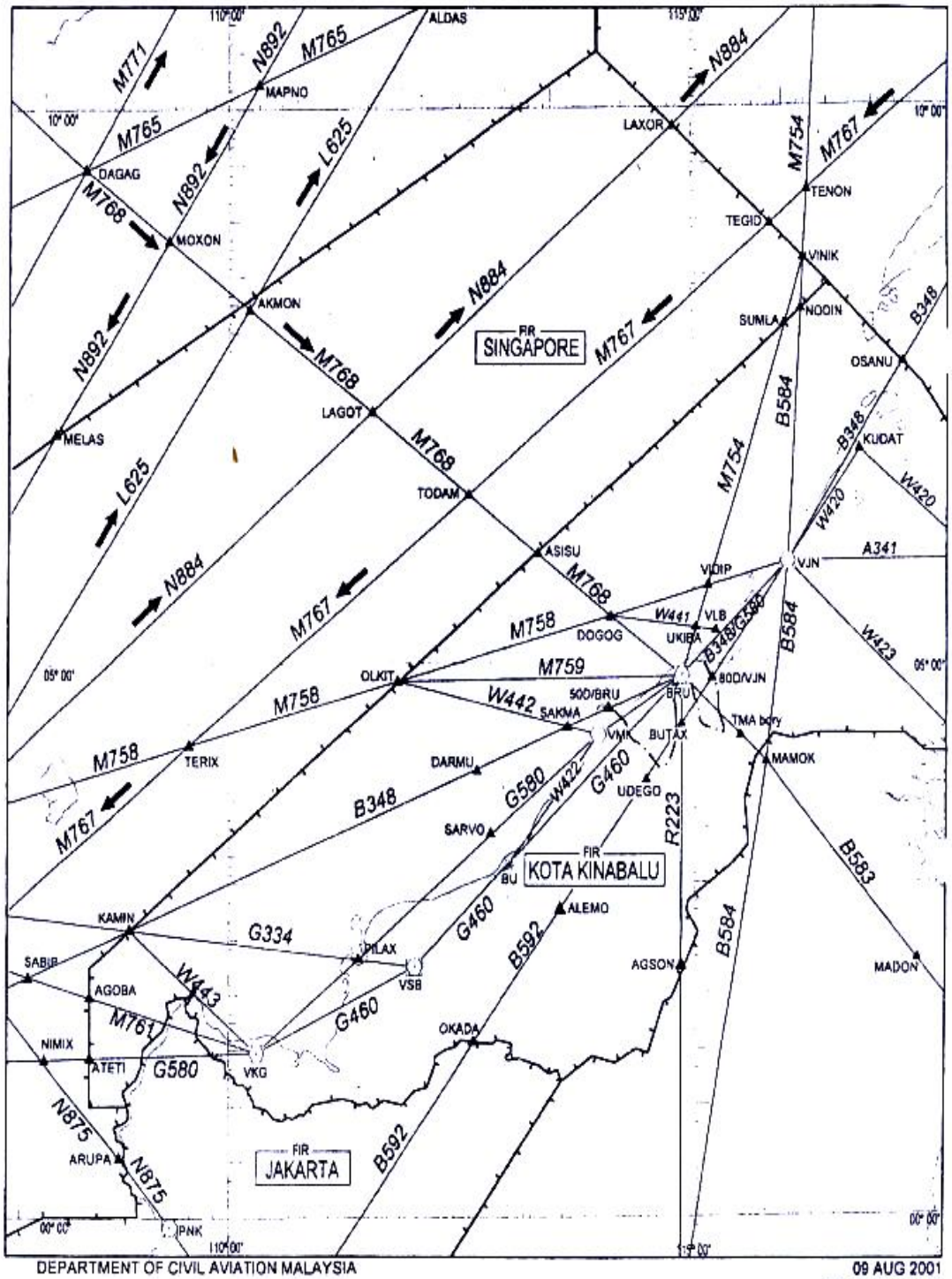
Route Designator Significant Points Coordinates	Track (Mag) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Class Refer ENR 1.4 - 1	Lateral Limits (NM)	Direction of Cruising Levels Odd | Even	Remarks Controlling Unit
1	2	3	4	5	6
[redacted]					
▲NIMIX 012454N 1075924E					
	089° 269° 31 NM			↓	**Remarks :** No Pre Departure Coordination (No PDC) arrangement :
▲ATETI (FIR BDRY) 012542N 1083000E					
	089° 269° 109 NM				Flights departing from Sarawak to Singapore will be cleared to FL260 / FL280. Succeeding acft may cleared to same level, provided at least 10 mins longitudinal separation using Mach Number Technique exists and with no closing speed.
▲KUCHING DVOR/DME (VKG) 012824N 1101830E					
	052° 232° 83 NM				Additional longitudinal separation shall be provided by ATC for faster acft behind.
▲PILAX 021908N 1123130E					
	052° 232° 110 NM	FL 460 6 500 FT ALT MNM 7 000 FT	20		**Controlling Authority :** 1. NIMIX - SARVO Kuching ACC - 134.5 MHz
Δ SARVO 032630N 1125010E					
	052° 232° 88 NM				2. SARVO - BRU DVOR/DME Kinabalu ACC - 128.3 MHz
▲MIRI DVOR/DME (VMI) 042019N 1135928E					
	059° 239° 62 NM				3. BRU DVOR/DME - VJN DVOR/DME Kinabalu ACC - 126.1 MHz
▲BRUNEI DVOR/DME (BRU) 045230N 1145254E					
	048° 228° 93 NM			↑	# except that part of ATS route within Brunei TMA - Brunei Approach - 127.1 MHz
▲KOTA KINABALU DVOR/DME (VJN) 055400N 1160200E					

Route Designator Significant Points Coordinates	Track (Mag) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Class Refer ENR 1.4 - 1	Lateral Limits (NM)	Direction of Cruising Levels Odd / Even	Remarks Controlling Unit
1	2	3	4	5	6
[redacted]					
▲BRUNEI DVOR/DME (BRU) 045230N 1145254E					
	181° 001° 26 NM	FL 460 FL 135	20	↓	Controlling Authority : Kinabalu ACC - 128.3 MHz
▲BUTAX 042613N 1145232E	181° 001° 131 NM	MNM FL 140		↑	
▲AGSON (FIR BDRY) 021500N 1145124E					
[redacted]					
▲DOGOG 052518N 1140742E					
	097° 277° 55 NM	FL 460 FL 135		↓	Controlling Authority : Kinabalu ACC - 128.3 MHz
▲UKIBA 051849N 1150209E	097° 277° 13 NM	MNM FL 140	20	↑	
▲LABUAN DVOR/DME (VLB) 051725N 1151518E					

Route Designator Significant Points Coordinates	Track (Mag) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Class Refer ENR 1.4 - 1	Lateral Limits (NM)	Direction of Cruising Levels Odd / Even	Remarks Controlling Unit
1	2	3	4	5	6
[redacted]					
▲OLKIT 045012N 1115118E					
	103° 283° 111 NM	FL 460 FL 135 MNM FL 140	20	↓	Controlling Authority : Kinabalu ACC - 128.3 MHz
▲SAKMA 042428N 1133955E	103° 283° 20 NM	FL 460 8 500 FT ALT MNM 9 000 FT		↑	
▲MIRI DVOR/DME (VMI) 042019N 1135928E					
[redacted]					
▲KAMIN 023442N 1085530E					
	129° 309° 106 NM	FL 460 6 500 FT ALT MNM 7 000 FT	20	↓ ↑	Controlling Authority : Kuching ACC - 134.5 MHz
▲KUCHING DVOR/DME (VKG) 012824N 1101830E					

Route Designator Significant Points Coordinates	Track (Mag) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Class Refer ENR 1.4 - 1	Lateral Limits (NM)	Direction of Cruising Levels Odd / Even	Remarks Controlling Unit
1	2	3	4	5	6
▲KUALA UMPUR DVOR/DME (VKL) 024328N 1014417E	086° 266° 56 NM			↓	**10 mins longitudinal separation between RNAV-equipped acft applying Mach Number Technique.** **15 mins longitudinal separation between other acft.** **Tolerances of Airways infringe WMD222. (Military activity – activated by NOTAM)** **The responsibility for the provision of ATS from Long 108° to Kota Kinabalu FIR is delegated to Kota Kinabalu ACC (Kuching Control)** No Pre Departure Coordination (No PDC) arrangement : Flights departing from Peninsular Malaysia to Kuching via G334 will be cleared to FL250 / FL270. Succeeding acft may be cleared to the same level provided 10 mins longitudinal separation using Mach Number Technique exists with no closing speed. Flight departing from Kuching to Peninsular Malaysia will be cleared to FL260 / FL280. Succeeding acft may be cleared to the same level provided 10 mins longitudinal separation using Mach Number Technique exists with no closing speed. Additional longitudinal separation shall be provided by ATC for faster acft behind.
Δ SAROX 024802N 1024019E	086° 266° 59 NM	FL 460 6 500 FT ALT MNM 7 000 FT			
Δ UKASA 025245N 1033901E	086° 266° 28 NM				
Δ PULAU TIOMAN DVOR/DME (VPT) 025459N 1040639E	096° 276° 92 NM		20		
▲KIBOL (FIR BDRY) 025229N 1042805E	096° 276° 93 NM	FL 460 FL 240 MNM FL 250			
▲BUNTO 024208N 1055953E	092° 272° 176 NM				
▲KAMIN (FIR BDRY) 023442N 1085530E	096° 276° 148 NM	FL 460 6 500 FT ALT MNM 7 000 FT		↑	
▲PILAX 021908N 1123130E	096° 276° 37 NM				
▲SIBU DVOR/DME (VSB) 021454N 1115949E					

REVISED ATS ROUTE STRUCTURE IN KOTA KINABALU FIR



DEPARTMENT OF CIVIL AVIATION MALAYSIA

09 AUG 2001
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