

GENERAL**Operational Hours****ATS Hours:** H24 (except FSS 2100-1200)

AD ADMIN Hours: AD MON-THU 0000-0830
 FRI 0000-0800
 ATS MON-FRI 0000-0900

Airport Information**RFF:** CAT 8

PCN: RWY 03/21: 77/F/C/W/T
 RWY 13/31: 63/F/C/X/T

Customs: 2300-1500, other times O/R**Operation****Standard Taxi Routes:** See separate header below.**Warnings**

Birds in vicinity of AD.

DEPARTURE**Take-off Minima**

RWY		03/21, 13/31	
All ACFT	ft - m/km	0 - 400V	HJ only
		0 - 800V	HN

ATC Slot, Clearance**Start-up/Push-back**

REQ CLR from GND before push-back or ENG start.

Standard Taxi Routes Arrival		
RWY 03		
Apron	Path	Taxi Routes
Cargo	D1	D - WP - I
		Exit E - turn left WP - turn right I
	E1	E - WP - I
		Exit E - turn left WP - turn right I
	F1	F - WP - I
		Exit F - turn left WP - turn right I
	SP1	SP - WP - I
		Exit SP - turn left WP - turn right I
New	D2	D - WP - F
		Exit E - turn left WP - turn right F
	D3	D - WP - E
		Exit E - turn left WP - turn right E
	E2	E - WP - F
		Exit E - turn left WP - turn right F
	E3	E
		Exit E
	F2	F
		Exit F
	F3	F - WP - E
		Exit F - turn right WP - turn left E
	SP2	SP - WP - F
		Exit SP - turn left WP - turn right F
	SP3	SP - WP - E
		Exit SP - turn left WP - turn right E
Old/Hangar/ Shelter	D4	D - WP - SP - C
		Exit D - turn right WP - turn left SP - turn left C
	D5	D - WP - SP - B - RWY 13 - A
		Exit D - turn right WP - turn left SP - turn right B - turn left enter back track RWY 13 - turn left A
	E4	E - WP - SP - C
		Exit E - turn right WP - turn left SP - turn left C
	E5	E - WP - SP - B - RWY 13 - A
		Exit E - turn right WP - turn left SP - turn right B - turn left enter back track RWY 13 - turn left A
	F4	F - WP - SP - C
		Exit F - turn right WP - turn left SP - turn left C

Standard Taxi Routes Arrival

RWY 03

Apron	Path	Taxi Routes
Old/Hangar/ Shelter	F5	F - WP - SP - B - RWY 13 - A
		Exit F - turn right WP - turn left SP - turn right B - turn left enter back track RWY 13 - turn left A
	SP4	SP - C
		Exit SP - turn left C
	SP5	SP - B - RWY 31 - A
		Exit SP - turn right B - turn left A

RWY 21

Apron	Path	Taxi Routes
Cargo	E1	E - WP - I
		Exit E - turn left WP - turn right I
	F1	F - WP - I
		Exit F - turn left WP - turn right I
	G1	G - I
		Exit G - continue I
	H1	H - WP - I
		Exit H - turn right WP - turn left I
New	E2	E - WP - F
		Exit E - turn left WP - turn right F
	E3	E
		Exit E
	F2	F
		Exit F
	F3	F - WP - E
		Exit F - turn right WP - turn left E
	G2	G - WP - F
		Exit G - turn right WP - turn left F
	G3	G - WP - E
		Exit G - turn right WP - turn left E
	H2	H - WP - F
		Exit H - turn right WP - turn left F
	H3	H - WP - E
		Exit H - turn right WP - turn left E
Old/Hangar/ Shelter	E4	E - WP - SP - C
		Exit E - turn right WP - turn left SP - turn left C

Standard Taxi Routes Arrival		
RWY 21		
Apron	Path	Taxi Routes
Old/Hangar/ Shelter	E5	E - WP - SP - B - RWY 13 - A
		Exit E - turn right WP - turn left SP - turn right B - turn left enter back track RWY 13 - turn left A
	F4	F - WP - SP - C
		Exit F - turn right WP - turn left SP - turn left C
	F5	F - WP - SP - B - RWY 13 - A
		Exit F - turn right WP - turn left SP - turn right B - turn left enter back track RWY 13 - turn left A
	G4	G - WP - SP - C
		Exit G - turn right WP - turn left SP - turn left C
	G5	G - WP - SP - B - RWY 13 - A
		Exit G - turn right WP - turn left SP - turn right B - turn left enter back track RWY 13 - turn left A
	H4	H - WP - SP - C
		Exit H - turn right WP - turn left SP - turn left C
	H5	H - WP - SP - B - RWY 13 - A
		Exit H - turn right WP - turn left SP - turn right B - turn left enter back track RWY 13 - turn left A
RWY 13		
Apron	Path	Taxi Routes
Cargo	J1	J - RWY 03 - G - I
		Exit J - continue enter back track RWY 03 - turn right G - continue I
	WP1	WP - I
		Exit WP - turn right I
New	J2	J - RWY 03 - F
		Exit J - continue enter back track RWY 03 - turn right F
	J3	J - RWY 03 - E
		Exit J - continue enter back track RWY 03 - turn right F
	WP2	WP - F
		Exit WP - turn right F
	WP3	WP - E
		Exit WP - turn right E
Old/Hangar/ Shelter	J4	J - SP - C
		Exit J - turn right SP - turn left C
	J5	J - SP - C - B - RWY 13 - A
		Exit J - turn right SP - turn right B - turn left enter back track RWY 13 - turn left A

Standard Taxi Routes Arrival

RWY 13

Apron	Path	Taxi Routes
Old/Hangar/ Shelter	WP4	WP - SP - C
		Exit WP - turn right SP - turn left C
	WP5	WP - SP - B - RWY 13 - A
		Exit WP - turn right SP - turn right B - turn left enter back track RWY 13 - turn left A

RWY 31

Apron	Path	Taxi Routes
Cargo	A1	A - Old Apron - C - SP - WP - I
		Exit A - enter Old Apron - turn left C - turn right SP - turn right WP - turn right I
	B1	B - SP - WP - I
		Exit B - turn left SP - turn right WP - turn right I
	C1	C - SP - WP - I
		Exit C - turn left SP - turn right WP - turn right I
New	A2	A - Old Apron - C - SP - WP - F
		Exit A - enter Old Apron - turn left C - turn right SP - turn right WP - turn right F
	A3	A - Old Apron - C - SP - WP - E
		Exit A - enter Old Apron - turn left C - turn right SP - turn right WP - turn right E
	B2	B - SP - WP - F
		Exit B - turn left SP - turn right WP - turn right F
	B3	B - SP - WP - E
		Exit B - turn left SP - turn right WP - turn right E
	C2	C - SP - WP - F
		Exit C - turn left SP - turn right WP - turn right F
	C3	C - SP - WP - E
		Exit C - turn left SP - turn right WP - turn right E
Old/Hangar/ Shelter	A4	A
		Exit A
	C4	C
		Exit C

Standard Taxi Routes Departure		
RWY 03		
Apron	Path	Taxi Routes
Cargo	I1	I - WP - H
		I - turn right WP - turn left H
	I2	I - G - RWY 03
		I - continue G - turn right enter back track RWY 03
New	F1	F - WP - H
		F - turn right WP - turn left H
	F2	F - WP - G - RWY 03
		F - turn right WP - turn left G - turn right enter back track RWY 03
	F3	F - RWY 03
		F - turn right enter back track RWY 03
	E1	E - WP - H
		E - turn right WP - turn left H
	E2	E - WP - G - RWY 03
		E - turn right WP - turn left G - turn right enter back track RWY 03
	E3	E - WP - F - RWY 03
		E - turn right WP - turn left F - turn right enter back track RWY 03
	E4	E - RWY 03
		E - turn right enter back track RWY 03
Old/Hangar/ Shelter	C1	C - SP - WP - H
		C - turn right SP - turn right WP - turn left H
	C2	C - SP - WP - G - RWY 03
		C - turn right SP - turn right WP - turn left G - turn right enter back track RWY 03
	C3	C - SP - RWY 03
		C - turn right SP - turn right enter back track RWY 03
	A1	A - RWY 31 - B - SP - WP - H
		A - turn right enter back track RWY 31 - turn right B - turn left SP - turn right WP - turn left H
	A2	A - RWY 31 - B - SP - WP - G - RWY 03
		A - turn right enter back track RWY 31 - turn right B - turn left SP - turn right WP - turn left G - turn right enter back track RWY 03
	A3	A - RWY 31 - WP - H
		A - turn right enter back track RWY 31 - turn right WP - turn left H

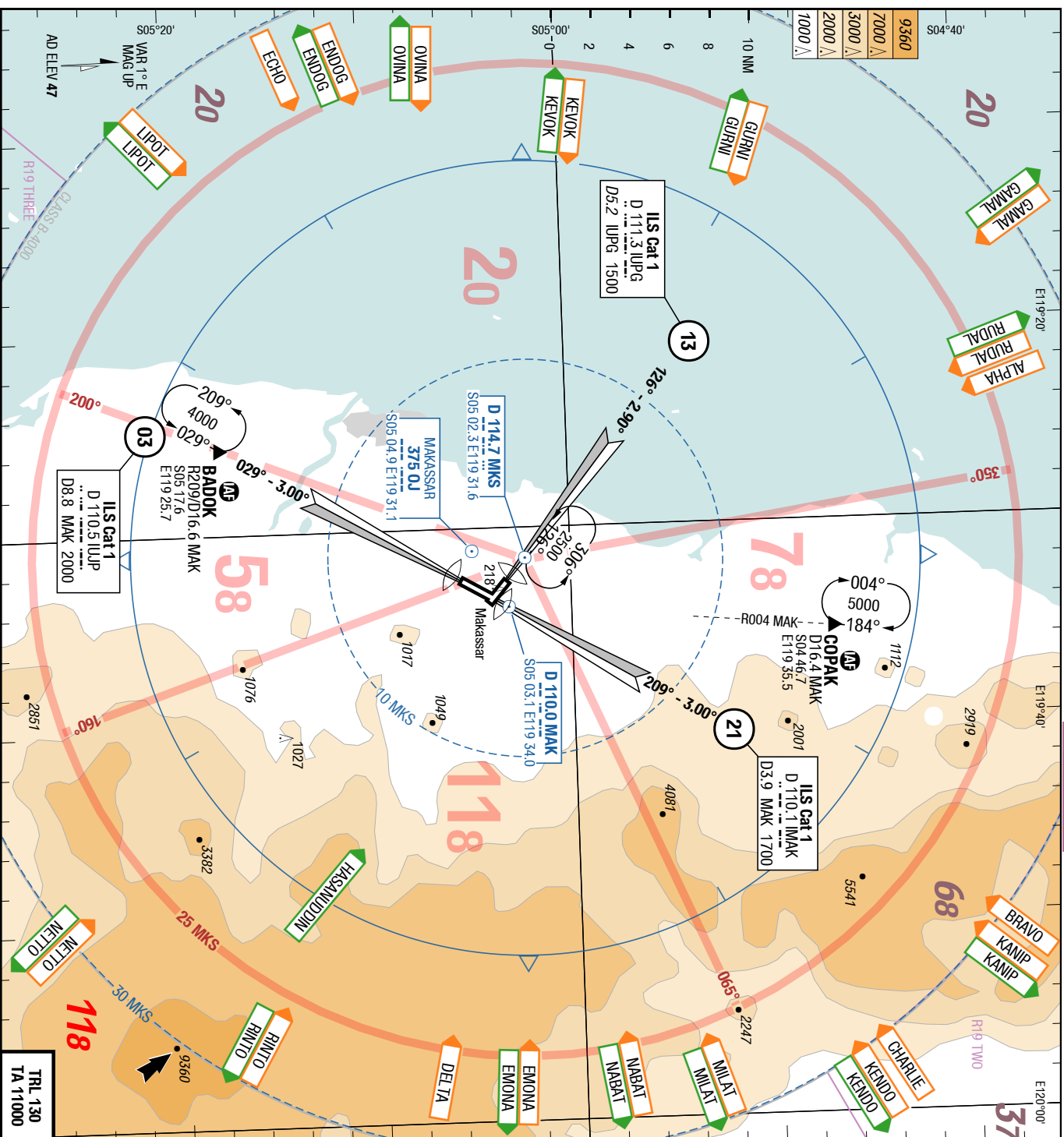
Standard Taxi Routes Departure		
RWY 21		
Apron	Path	Taxi Routes
Cargo	I3	I - G - RWY 21
		I - continue G - turn left enter back track RWY 21
	I4	I - WP - F - RWY 21
		I - turn left WP - turn right F - turn left enter back track RWY 21
	I5	I - WP - E - RWY 21
		I - turn left WP - turn right E - turn left enter back track RWY 21
I6	I - WP - SP	
	I - turn left WP - turn right SP	
New	F4	F - RWY 21
		F - turn left enter back track RWY 21
	F5	F - WP - SP
		F - turn left WP - turn right SP
	E5	E - RWY 21
		E - turn left enter back track RWY 21
E6	E - WP - SP	
	E - turn left WP - turn right SP	
Old/Hangar/ Shelter	C4	C - SP
		C - turn right SP
	C5	C - RWY 31 - J
		C - turn right enter back track RWY 31 - turn right J
	A4	A - RWY 31 - B - SP
		A - turn right enter back track RWY 31 - turn right B - turn left SP
A5	A - RWY 31 - J	
	A - turn right enter back track RWY 31 - turn right J	
RWY 13		
Apron	Path	Taxi Routes
Cargo	I9	I - G - RWY 21 - J - RWY 13
		I - continue G - turn left enter back track RWY 21 - continue J - turn left enter back track RWY 13
	I10	I - WP - RWY 13
		I - turn left WP - turn left enter back track RWY 13
	I11	I - WP - SP - B - RWY 13
		I - turn left WP - turn left SP - turn right B - turn left enter back track RWY 13
New	F8	F - WP - RWY 13
		F - turn left WP - turn left enter back track RWY 13

Standard Taxi Routes Departure		
RWY 13		
Apron	Path	Taxi Routes
New	F9	F - WP - SP - B - RWY 13
		F - turn left WP - turn left SP - turn right B - turn left enter back track RWY 13
	E9	E - WP - RWY 13
		E - turn left WP - turn left enter back track RWY 13
	E10	E - WP - SP - B - RWY 13
		E - turn left WP - turn left SP - turn right B - turn left enter back track RWY 13
Old/Hangar/ Shelter	C9	C - RWY 13
		C - turn left enter back track RWY 13
	C10	C - B - RWY 13
		C - turn left B - turn left enter back track RWY 13
	A7	A - RWY 13
		A - turn right enter back track RWY 13
	A8	A - RWY 13
		A - turn left enter back track RWY 13
RWY 31		
Apron	Path	Taxi Routes
Cargo	I7	I - G - RWY 21 - J - RWY 31
		I - continue G - turn left back track RWY 21 - continue J - turn right enter back track RWY 31
	I8	I - WP - RWY 31
		I - turn left WP - turn right enter back track RWY 31
New	F6	F - RWY 21 - J - RWY 31
		F - turn left enter back track RWY 21 - continue J - turn right enter back track RWY 31
	F7	F - WP - RWY 31
		F - turn left WP - turn right enter back track RWY 31
	E7	E - RWY 21 - J - RWY 31
		E - turn left enter back track RWY 21 - continue J - turn right enter back track RWY 31
	E8	E - WP - RWY 31
		E - turn left WP - turn right enter back track RWY 31
Old/Hangar/ Shelter	C6	C - SP - J - RWY 31
		C - turn right SP - turn left J - turn right enter back track RWY 31
	C7	C - SP - WP - RWY 31
		C - turn right SP - turn left WP - turn right enter back track RWY 31

Standard Taxi Routes Departure

RWY 31

Apron	Path	Taxi Routes
Old/Hangar/ Shelter	C8	C - RWY 31
		C - turn right enter back track RWY 31
	A6	A - RWY 31 - B - SP - J - RWY 31
		A - turn right enter back track RWY 31 - turn right B - turn left SP -turn left J - turn right enter back track RWY 31



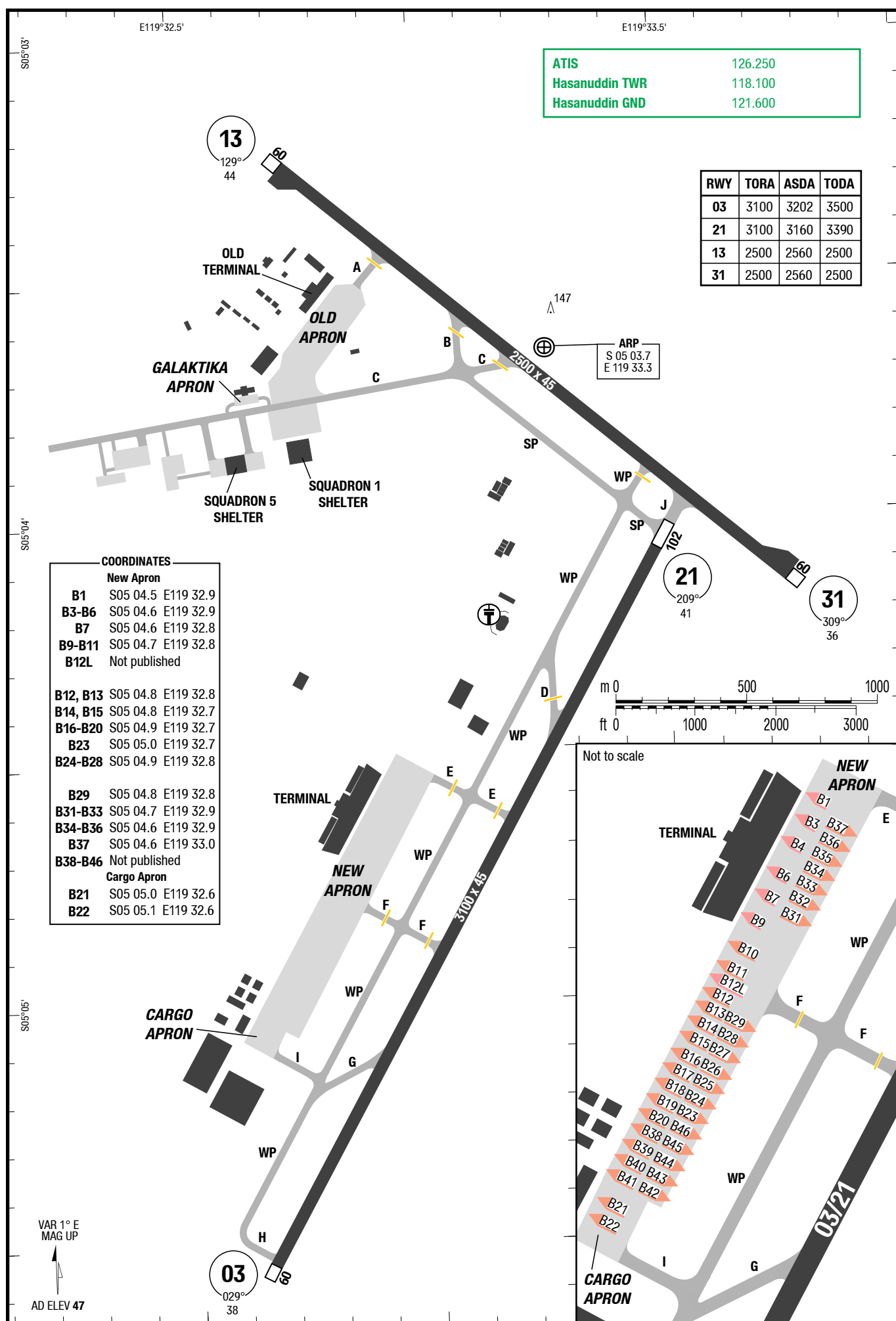
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RAD	127.500
Ujung Pandang CTL	134.100
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	128.100
	120.700
	128.300
	123.900
	127.500
DIR	119.400
	120.600
	118.100
	121.600

Landing RWY system:

03	THR 38 (1hPa) / TDZ 38 (---%)	0.0%
13	THR 44 (2hPa) / TDZ 44 (---%)	0.1%
21	THR 41 (2hPa) / TDZ 41 (---%)	0.0%

03	THR 38 (1hPa) / TDZ 38 (---%)	0.0%
13	THR 44 (2hPa) / TDZ 44 (---%)	0.1%
21	THR 41 (2hPa) / TDZ 41 (---%)	0.0%

03	THR 38 (1hPa) / TDZ 38 (---%)	0.0%
13	THR 44 (2hPa) / TDZ 44 (---%)	0.1%
21	THR 41 (2hPa) / TDZ 41 (---%)	0.0%



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Hasanuddin 3/4

4-10

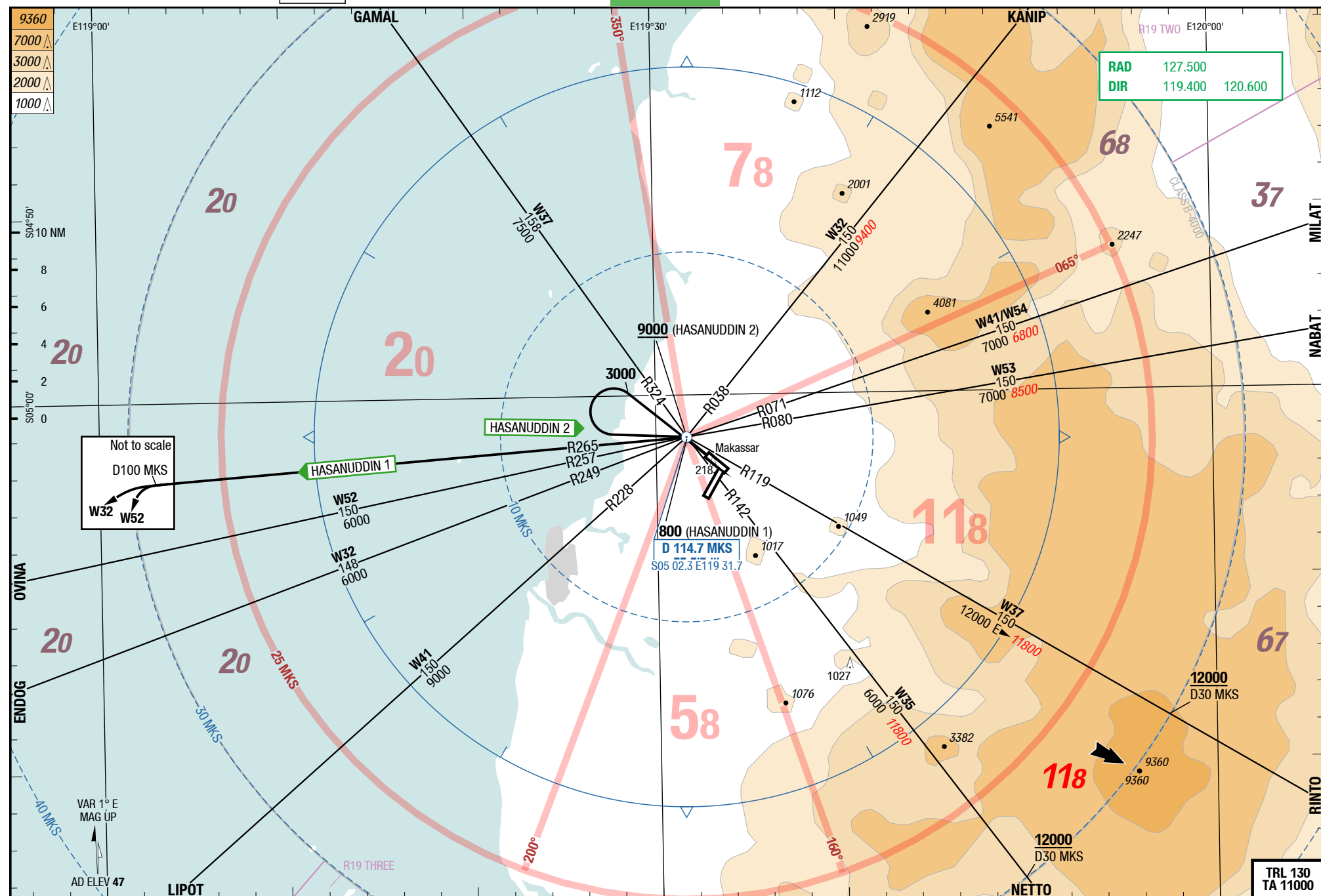
Hasanuddin 1/2

SID

SID

Hasanuddin 3/4

Hasanuddin 1/2



Changes: Track, FREQ, SUAs, VAR

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4-20

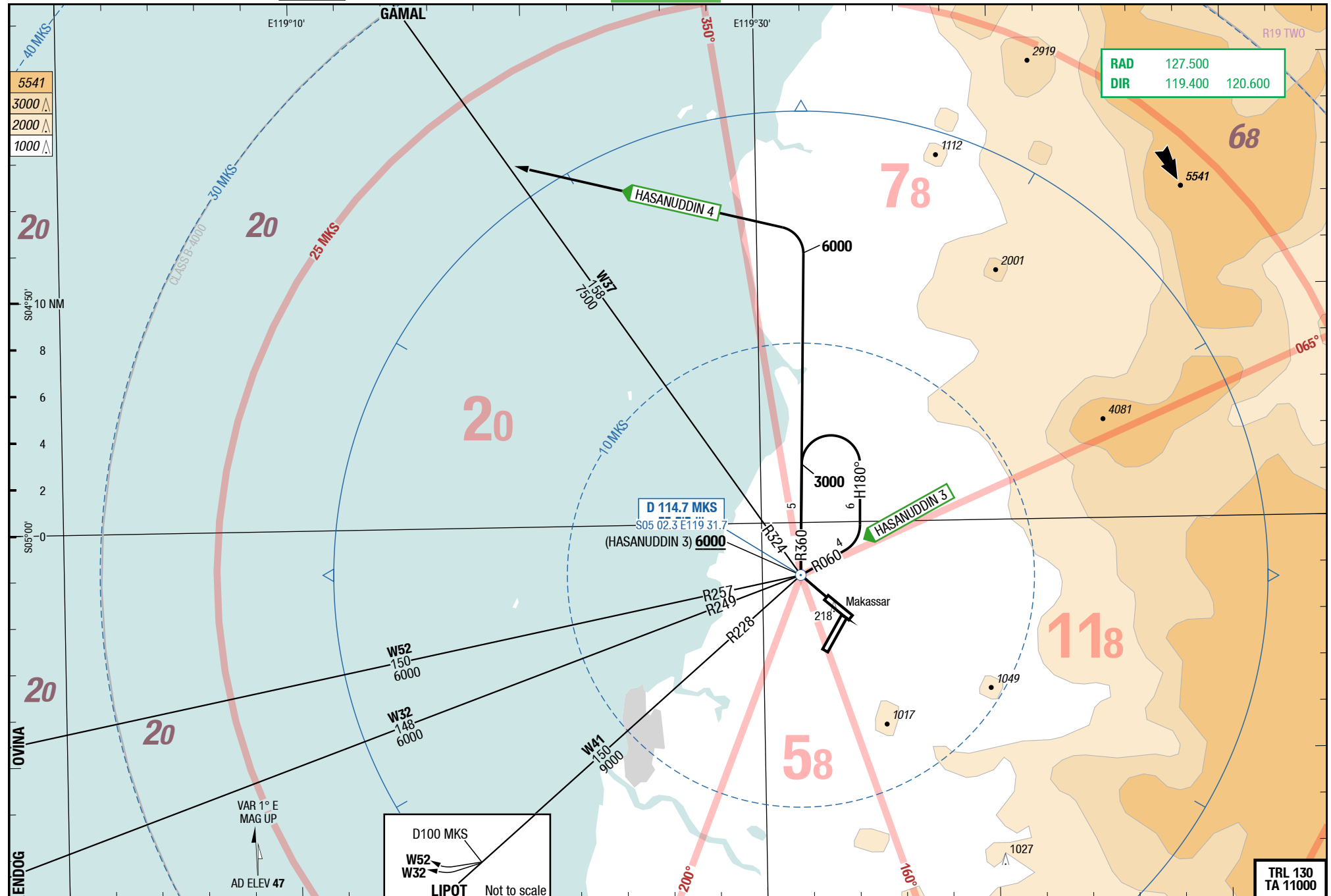
Hasanuddin 3/4

SID

SID

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Hasanuddin 3/4



Changes: Track, FREQ, SUAs, VAR

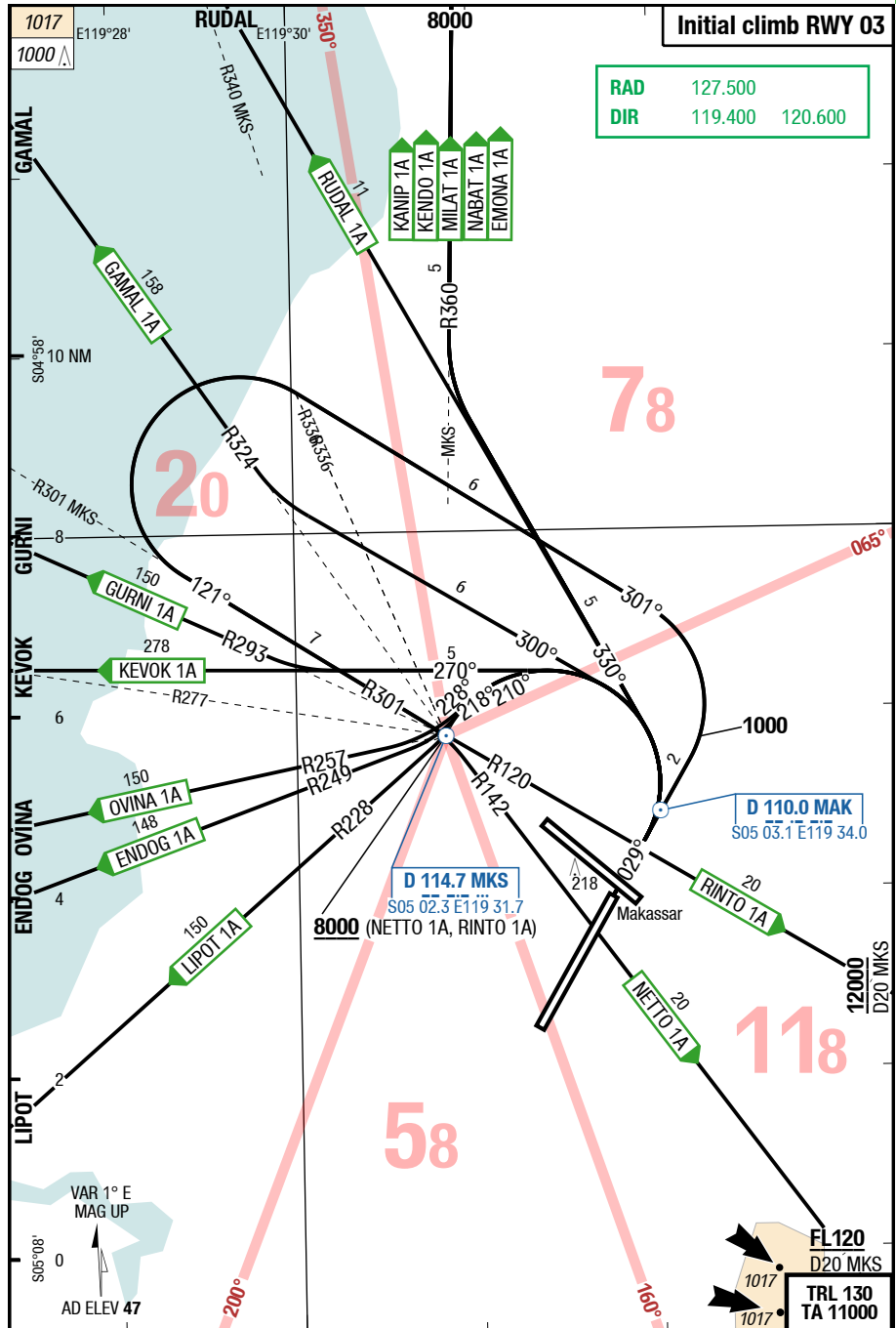
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4-30

Initial Climb RWY 03

SID



Changes: Track, VAR

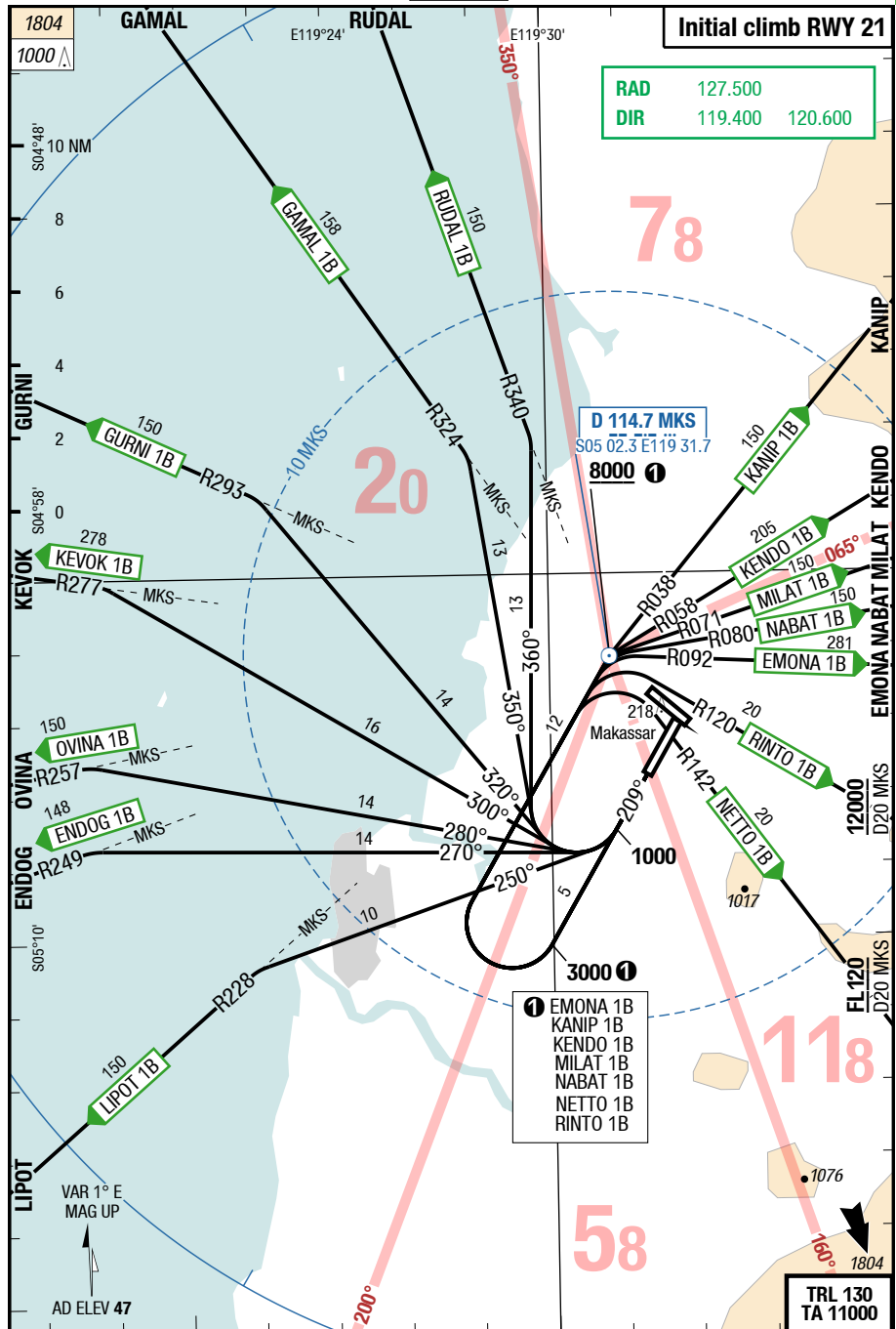
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4-40

Initial Climb RWY 21

SID



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SID RWY 21

4-50

SID RWY 03

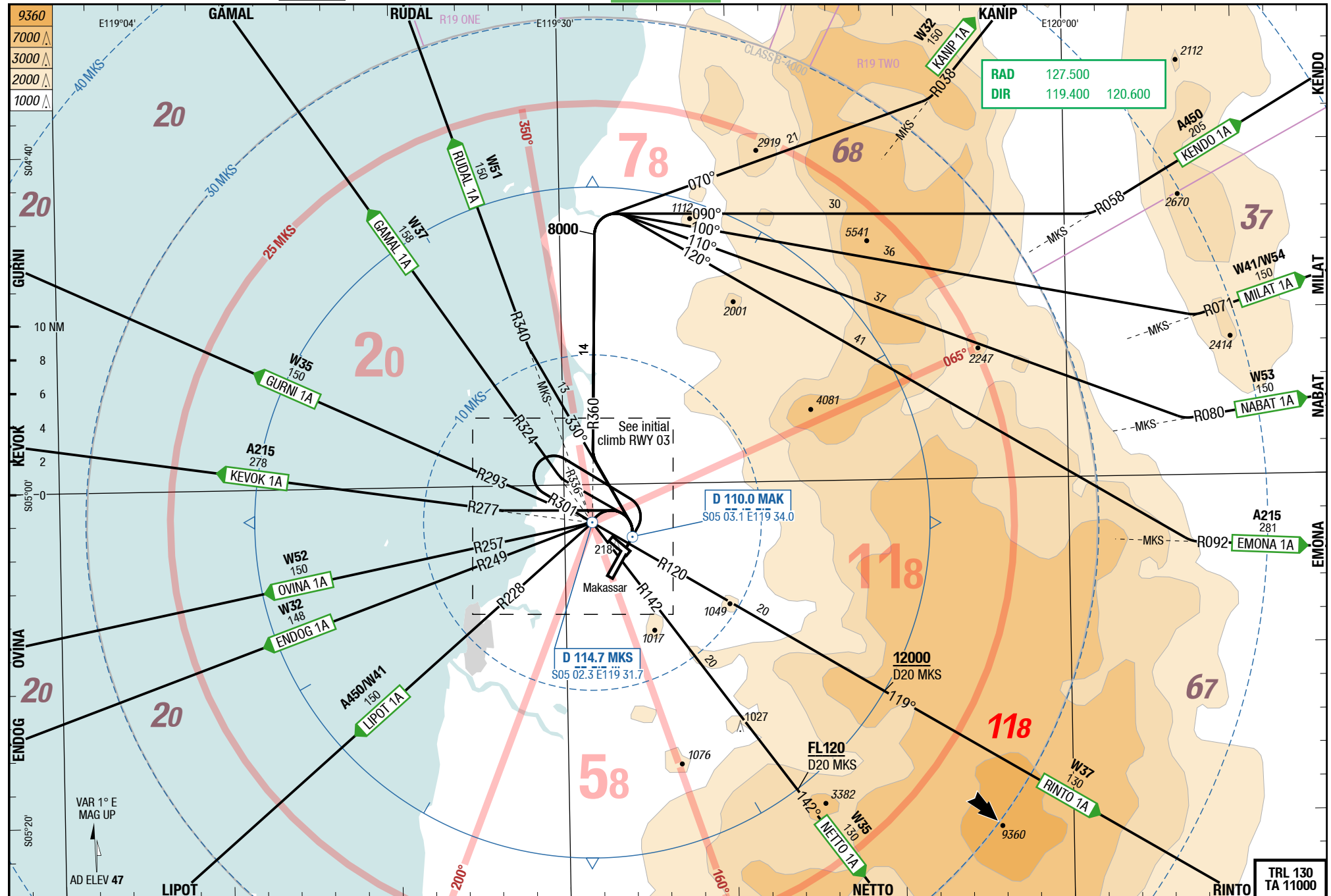
SID

SID

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SID RWY 21

SID RWY 03



Changes: Track, FREQ, VAR

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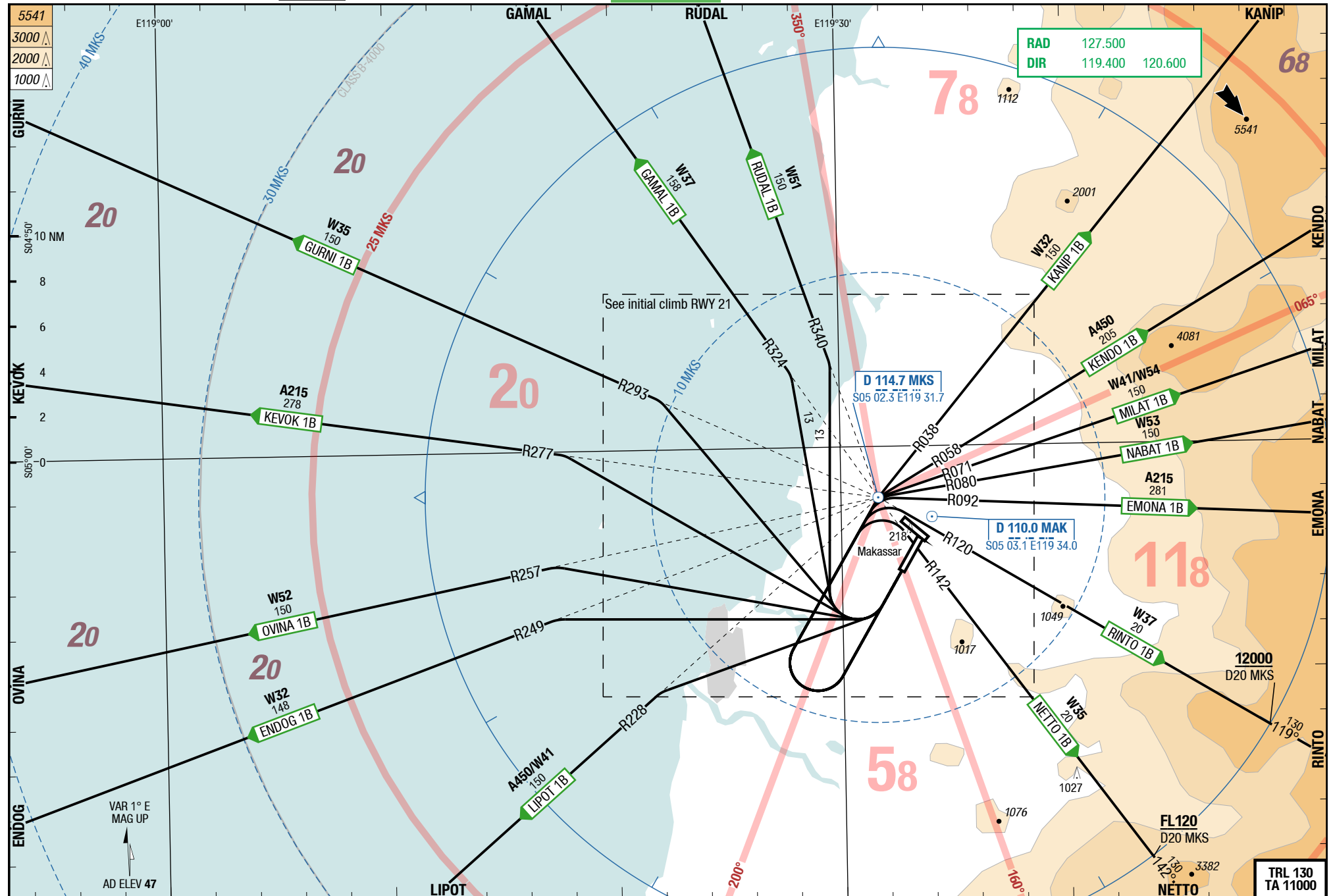
4-60

SID RWY 21

SID

SID

SID RWY 21



HASANUDDIN 1 / HASANUDDIN 2

RWY 31 (309°)

DESIGNATOR	ROUTING	ALTITUDES
	Runway 31	
HASANUDDIN 1	<p>at 800</p> <p>to GAMAL RT join AWY W37 North westbound</p> <p>to ENDOG LT intercept R265 MKS - at D100 MKS join AWY W32 South westbound</p> <p>to LIPOT LT join AWY W41</p> <p>to OVINA LT intercept R265 MKS - at D100 MKS join AWY W52</p>	
HASANUDDIN 2	<p>via MKS - at 3000 LT direct MKS</p> <p>to RINTO RT join AWY W37 South eastbound</p> <p>to KANIP LT join AWY W32 North eastbound</p> <p>to MILAT LT join AWY W54/W41</p> <p>to NABAT LT join AWY W53</p> <p>to LIPOT RT join AWY W41</p> <p>to NETTO RT join AWY W35 South eastbound</p>	<p>MKS MNM 9000 D30 MKS MNM 12000 (for AWY W35 and W37)</p>

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Hasanuddin 3/4**SIDPT****HASANUDDIN 3 / HASANUDDIN 4**

RWY 31 (309°)

DESIGNATOR	ROUTING	ALTITUDES
	Runway 31	
HASANUDDIN 3	direct MKS - R360 MKS - at 3000 RT HDG 180° intercept R060 MKS to MKS to ENDOG join AWY W41 - at D100 MKS join AWY W32 to LIPOT join AWY W41 to OVINA join AWY W41 - at D100 MKS join AWY W52	MKS MNM 6000
HASANUDDIN 4	direct MKS - R360 MKS - at 6000 LT join AWY W37	

Changes: QFU

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5-30

SID RWY 03**SIDPT**

**EMONA 1A / ENDOG 1A / GAMAL 1A / GURNI 1A / KANIP 1A / KENDO 1A / KEVOK 1A /
LIPOT 1A / MILAT 1A / NABAT 1A / NETTO 1A / OVINA 1A / RINTO 1A / RUDAL 1A**
RWY 03 (029°)

DESIGNATOR	ROUTING	ALTITUDES
EMONA 1A	029° - LT intercept R360 MKS - at 8000 RT 120° - intercept R092 MKS to EMONA (A215)	
ENDOG 1A	029° - LT 218° - intercept R249 MKS to ENDOG (W32)	
GAMAL 1A	029° - LT 300° - intercept R324 MKS to GAMAL (W37)	
GURNI 1A	029° - LT 270° intercept R293 MKS to GURNI (W35)	
KANIP 1A	029° - LT intercept R360 MKS - at 8000 RT 070° - intercept R038 MKS to KANIP (W32)	
KENDO 1A	029° - LT intercept R360 MKS - at 8000 RT 090° - intercept R058 MKS to KENDO (A450)	
KEVOK 1A	029° - LT 270° - intercept R277 MKS to KEVOK (A215)	
LIPOT 1A	029° - LT 210° - intercept R228 MKS to LIPOT (A450/W41)	
MILAT 1A	029° - LT intercept R360 MKS - at 8000 RT 100° - intercept R071 MKS to MILAT (W41/W54)	
NABAT 1A	029° - LT intercept R360 MKS - at 8000 RT 110° - intercept R080 MKS to NABAT (W53)	
NETTO 1A	029° - at 1000 LT 301° - crossing R336 MKS LT intercept R301 MKS inbound MKS - R142 MKS to NETTO (W35)	MKS MNM 8000 D20 MKS MNM 12000
OVINA 1A	029° - LT 228° - intercept R257 MKS to OVINA (W52)	
RINTO 1A	029° - at 1000 LT 301° - crossing R336 MKS LT intercept R301 MKS inbound MKS - R120 MKS to RINTO (W37)	MKS MNM 8000 D20 MKS MNM 12000
RUDAL 1A	029° - LT 330° - intercept R340 MKS to RUDAL (W51)	

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5-40

SID RWY 21**SIDPT**

**EMONA 1B / ENDOG 1B / GAMAL 1B / GURNI 1B / KANIP 1B / KENDO 1B / KEVOK 1B /
LIPOT 1B / MILAT 1B / NABAT 1B / NETTO 1B / OVINA 1B / RINTO 1B / RUDAL 1B**
RWY 21 (209°)

DESIGNATOR	ROUTING	ALTITUDES
EMONA 1B	209° - at 3000 RT to MKS - R092 MKS to EMONA (A215)	MKS MNM 8000
ENDOG 1B	209° - at 1000 RT 270° - intercept R249 MKS to ENDOG (W32)	
GAMAL 1B	209° - at 1000 RT 350° - intercept R324 MKS to GAMAL (W37)	
GURNI 1B	209° - at 1000 RT 320° - intercept R293 MKS to GURNI (W35)	
KANIP 1B	209° - at 3000 RT to MKS - R038 MKS to KANIP (W32)	MKS MNM 8000
KENDO 1B	209° - at 3000 RT to MKS - R058 MKS to KENDO (A450)	MKS MNM 8000
KEVOK 1B	209° - at 1000 RT 300° - intercept R277 MKS to KEVOK (A215)	
LIPOT 1B	209° - at 1000 RT 250° - intercept R228 MKS to LIPOT (A450/ W41)	
MILAT 1B	209° - at 3000 RT to MKS - R071 MKS to MILAT (W41/W54)	MKS MNM 8000
NABAT 1B	209° - at 3000 RT to MKS - R080 MKS to NABAT (W53)	MKS MNM 8000
NETTO 1B	209° - at 3000 RT to MKS - R142 MKS to NETTO (W35)	MKS MNM 8000 D20 MKS MNM 12000
OVINA 1B	209° - at 1000 RT 280° - intercept R257 MKS to OVINA (W52)	
RINTO 1B	209° - at 3000 RT to MKS - R120 MKS to RINTO (W37)	MKS MNM 8000 D20 MKS MNM 12000
RUDAL 1B	209° - at 1000 RT 360° - intercept R340 MKS to RUDAL (W51)	

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6-20

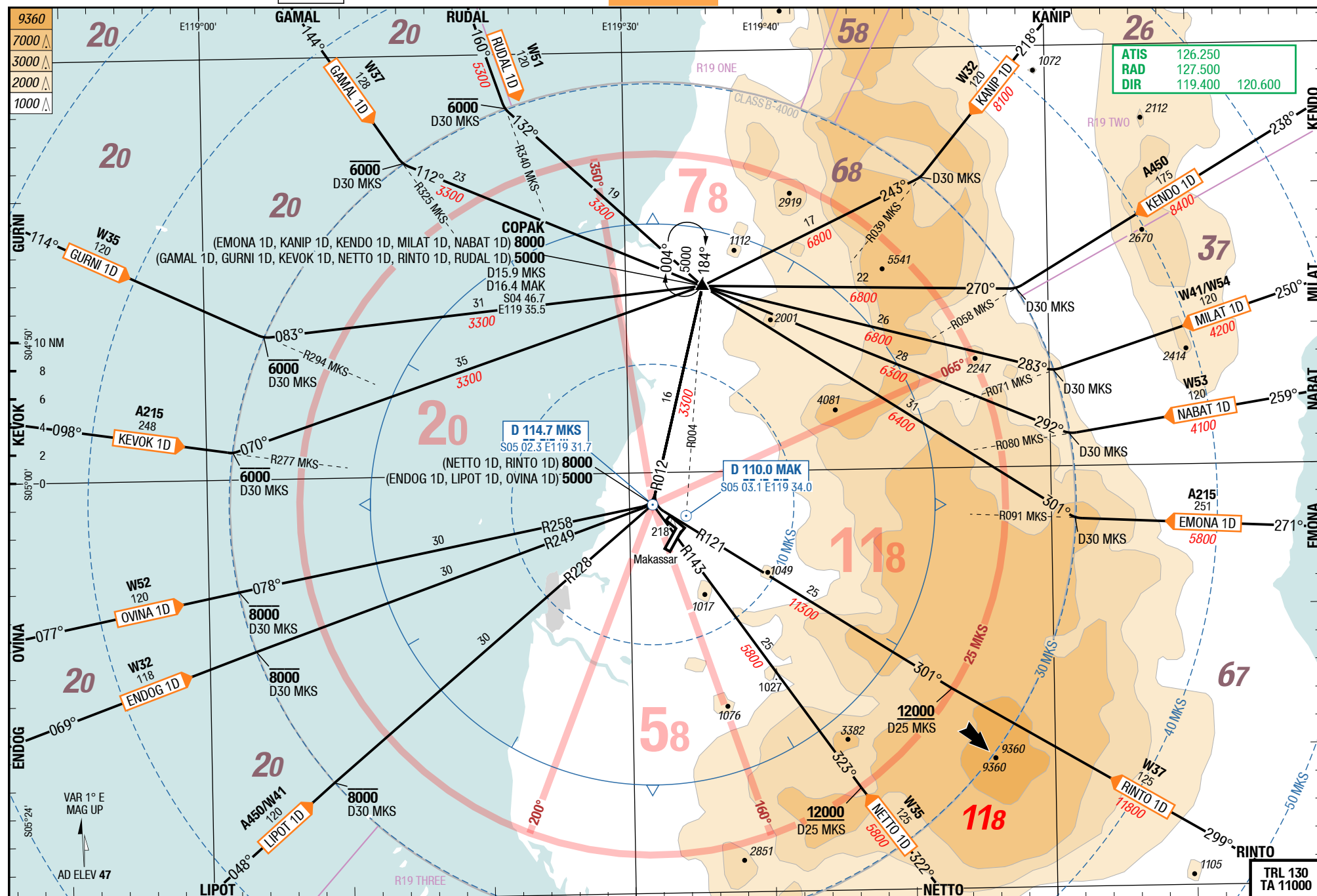
STARs RWY 21

STAR

STAR

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STARs RWY 21



Changes: Track, FREQ, VAR, OBST

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NIL

6-30

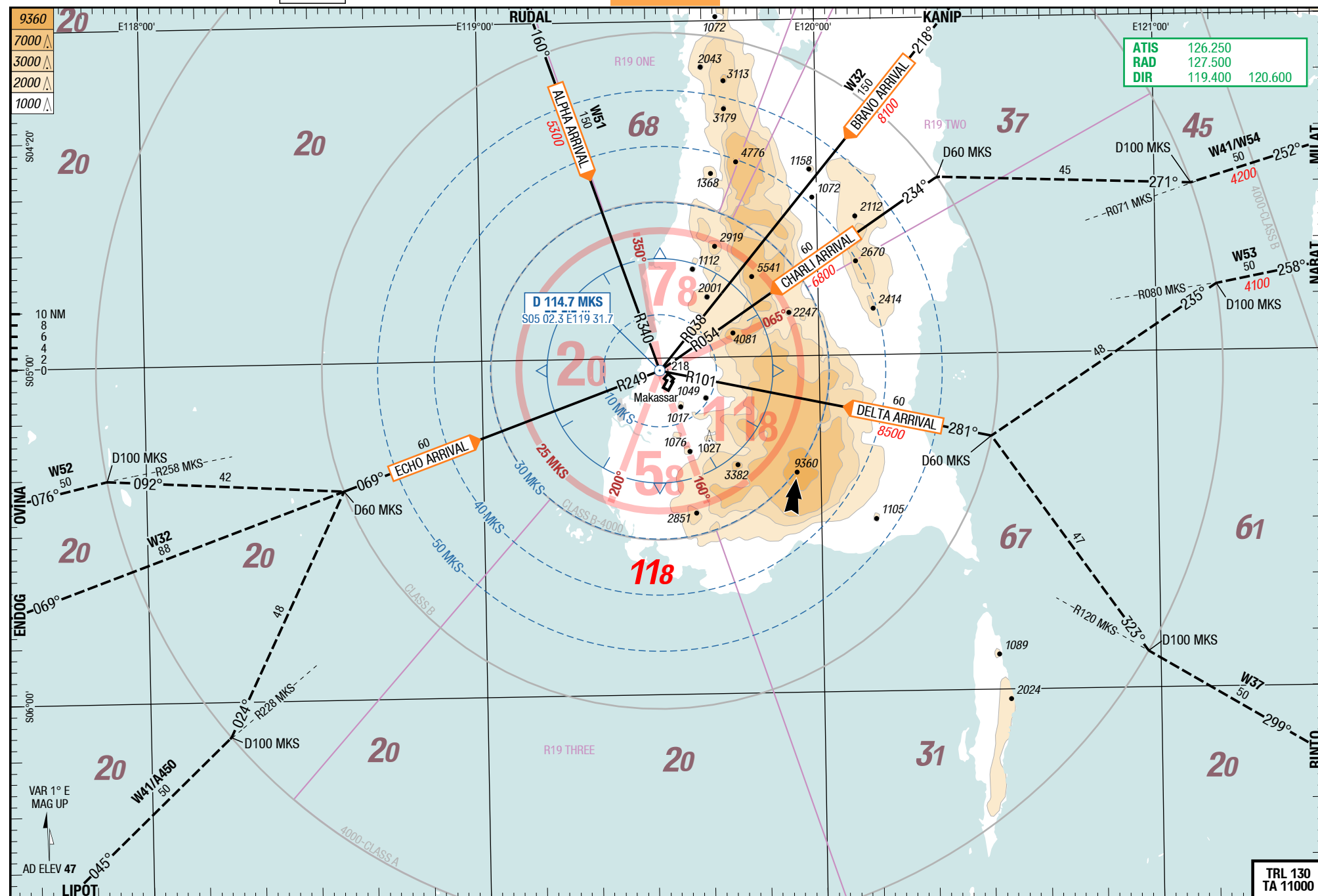
STARs (RWY 13/31 ARRIVALs)

STAR

STAR

NIL

STARs (RWY 13/31 ARRIVALs)



Changes: Track, FREQ, VAR, OBST

TRL 130
TA 11000

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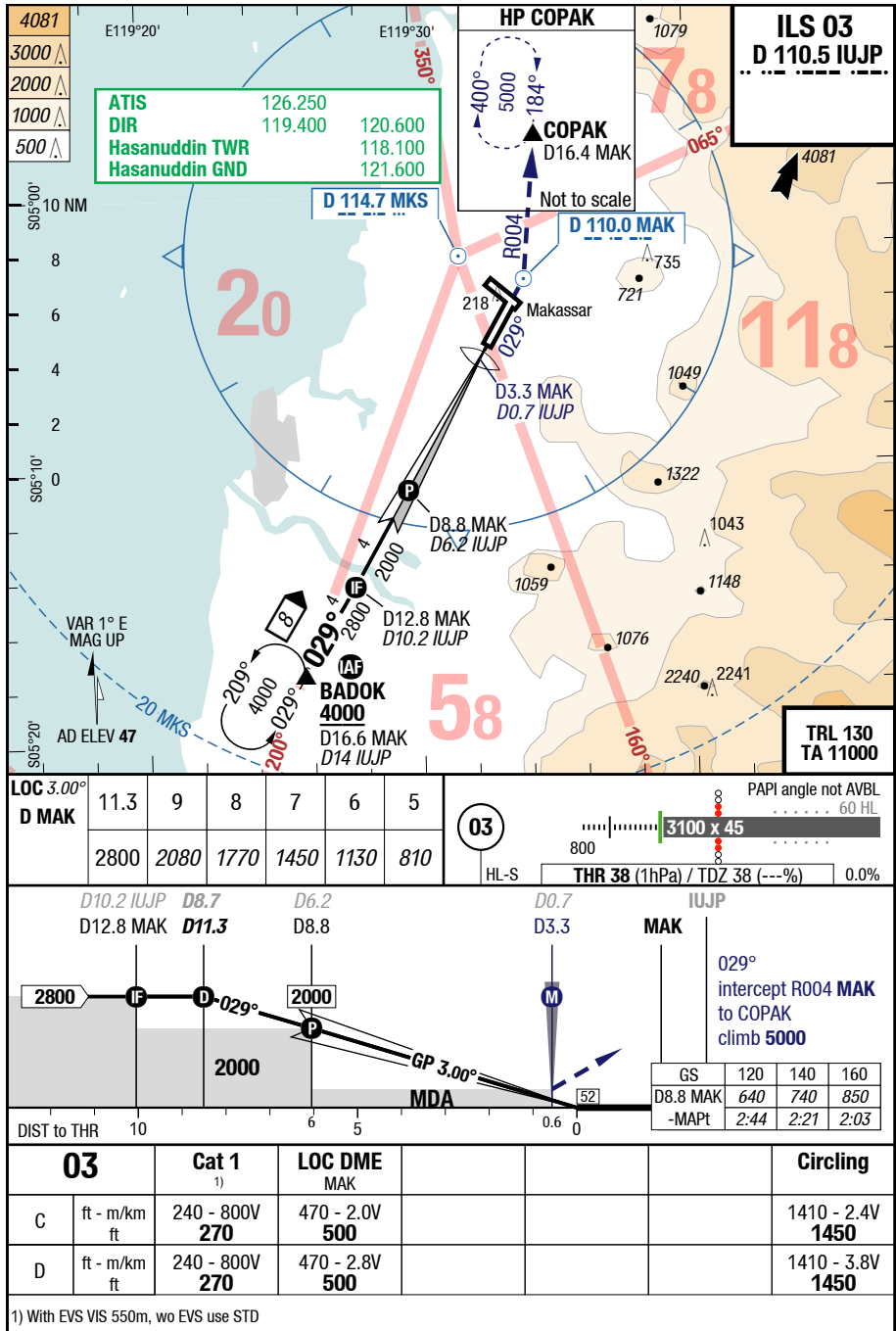
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7-10

ILS 03

IAC



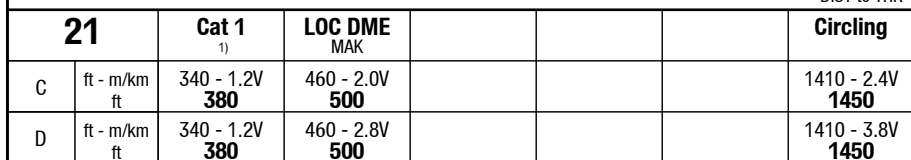
Changes: Track, FAT, VAR, HLDG

ILS 13



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ILS 21



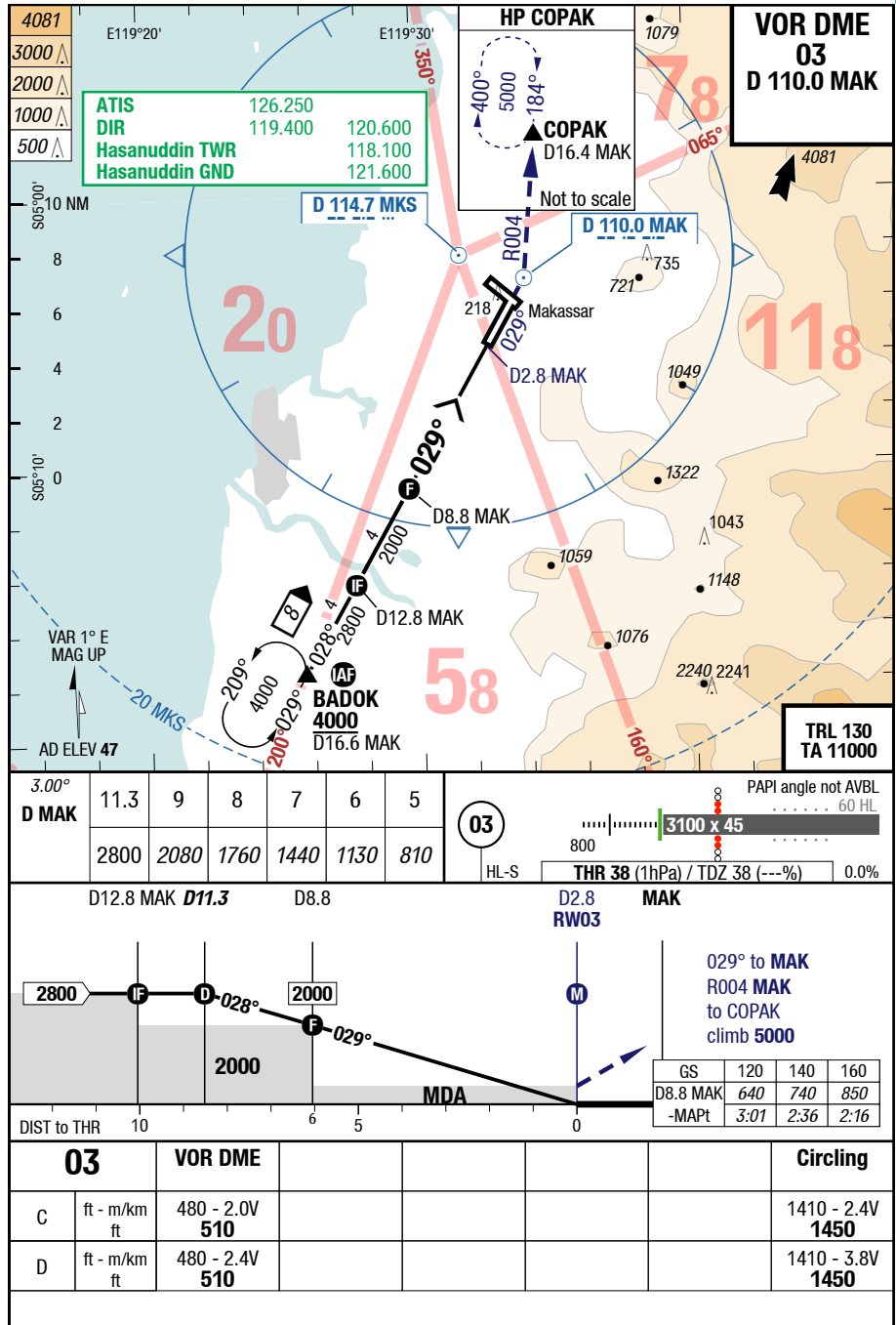
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7-40

VOR DME 03

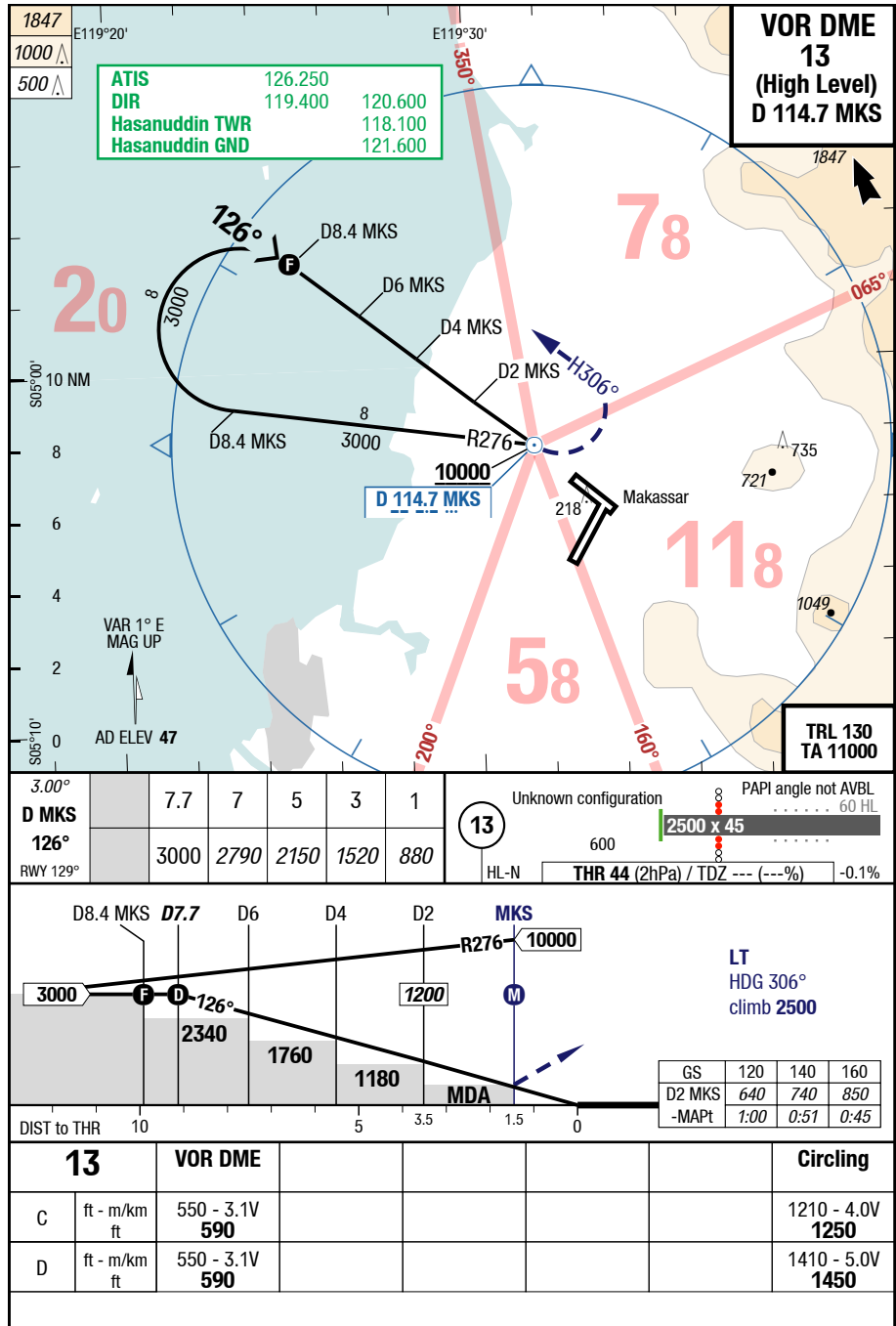


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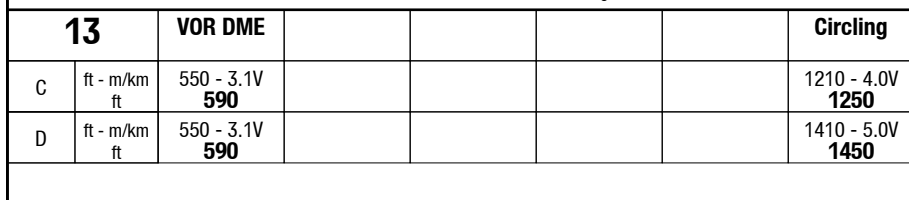
7-50

VOR DME 13 (High Level)

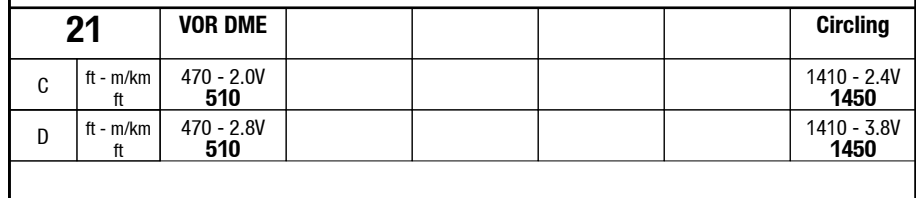


Changes: MIN, FAT, Track

VOR DME 13



VOR DME 21



NDB 13 (Circling)

13		Letdown NDB					Circling 1)
C	ft - m/km ft	1210 - 5.0V 1250					1210 - 5.0V 1250
D	ft - m/km ft	1410 - 5.0V 1450					1410 - 5.0V 1450

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Changes: Track, FAT, VAR

09-JUN-2016
UPG-WAAA

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NIL
MRC

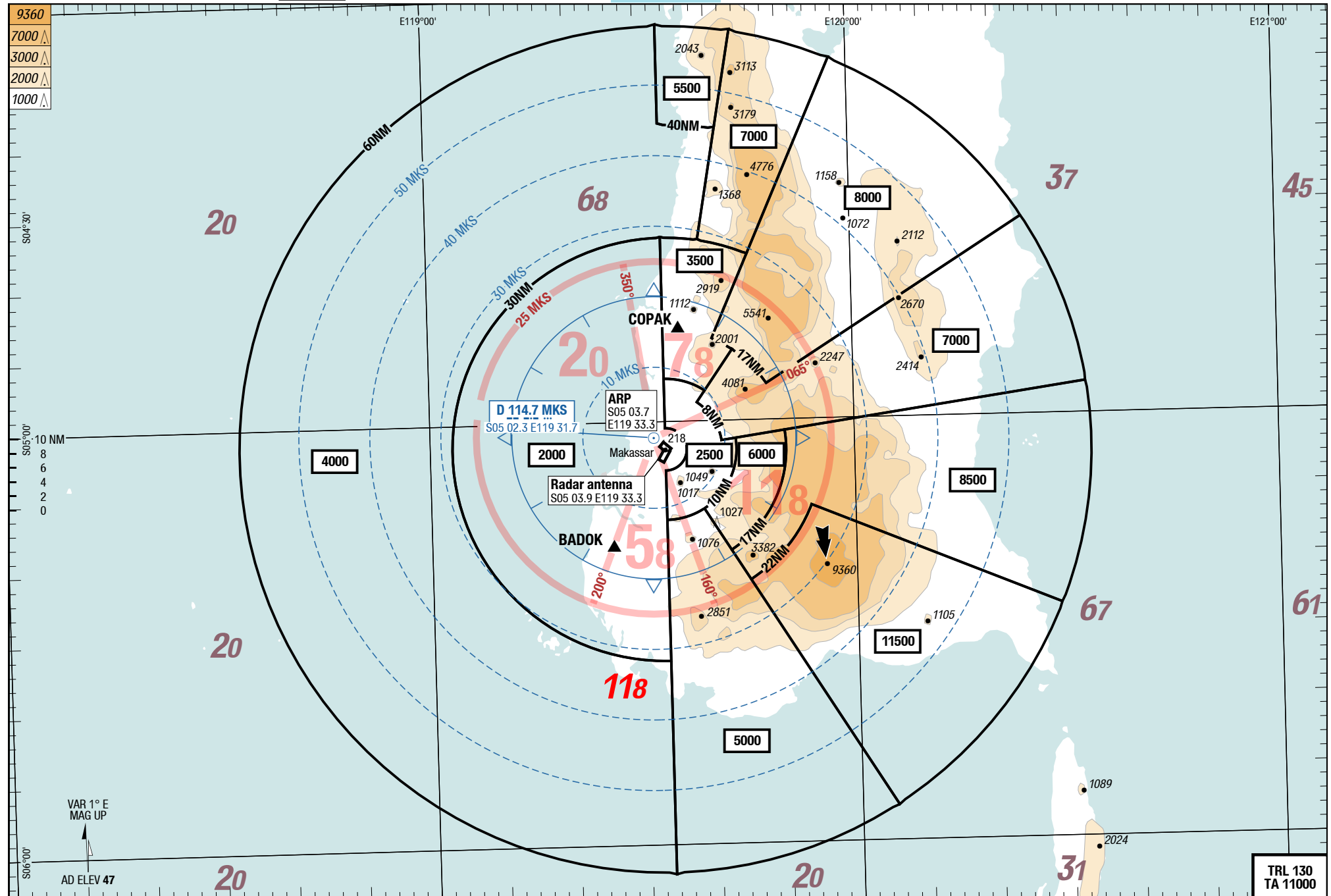
MRC

MRC

Sultan Hasanuddin Intl **Makassar** Indonesia

NIL
MRC

8-10



Changes: OBST, VAR