## LHBP AD 2.1 AERODROME LOCATION INDICATOR AND NAME

LHBP BUDAPEST LISZT FERENC INTERNATIONAL AIRPORT

## LHBP AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

| | | |
|---|---|---|
| 1 | ARP coordinates and site at AD | 472622N 0191543E At intersection of TWYs "A", "N" and "K |
| 2 | Direction and distance from (city) | 16 KM, ESE (115°) from the centre of Budapest |
| 3 | Elevation/Reference temperature | 151.3 M/22°C |
| 4 | Geoid undulation | 44 M |
| 5 | MAG VAR/ Annual change | 4° E/0.1 (2009) |
| 6 | AD Administration, address, telephone, telefax, AFS | Post:Budapest Airport Zrt.<br>H-1185 Budapest, BUD International Airport<br>Phone:(+361) 296-7421<br>Fax:(+361) 296-6890<br>AFS:LHBPYDYG<br>Email:airport.ops@bud.hu |
| 7 | Types of traffic permitted (IFR/VFR) | IFR-VFR |
| 8 | Remarks | Nil |

## LHBP AD 2.3 OPERATIONAL HOURS

| | | |
|---|---|---|
| 1 | AD Administration | H24 |
| 2 | Customs and immigration | H24 |
| 3 | Health and sanitation | H24 |
| 4 | AIS Briefing Office | H24 |
| 5 | ATS Reporting Office (ARO) | H24 |
| 6 | MET Briefing Office | H24 *See AD 2-LHBP AD-2.11* and *See GEN 3.5* |
| 7 | ATS | H24 Night restrictions *See AD 2-LHBP AD-2.21* |
| 8 | Fuelling | H24 |
| 9 | Handling | H24 |
| 10 | Security | H24 |
| 11 | De-icing | H24 |
| 12 | Remarks | Nil |

## LHBP AD 2.4 HANDLING SERVICES AND FACILITIES

| | | |
|---|---|---|
| 1 | Cargo-handling facilities | Trucks (1.5-3.5 tons), fork lifts (up to 5 tons), conveyor belts, high loader (up to 20 tones). |
| 2 | Fuel/oil types | Jet A-1, (NATO code F-35), MK8P and MOBIL Jet engine oil., FH15 and CHEVRON HYJET IV. |
| 3 | Fuelling facilities/capacity | Air BP senior representative Castrol Hungary KFT.:<br>Phone:(+361) 296-6017<br>Phone:(+36) 30-933-5319<br>Fax:(+361) 296-6017Sales Manager Airport Fuel Supply LLC<br>Phone:(+361) 296-5107<br>Phone:(+36) 20-493-1039<br>Fax:(+361) 294-4215 |
| 4 | De-icing facilities | Available on parking stands on request |
| 5 | Hangar space for visiting aircraft | Limited by prior arrangement only |
| 6 | Repair facilities for visiting aircraft | Aeroplex:<br>Email:marketingkozpont@aeroplex.com<br>Lufthansa Technik Budapest<br>Phone:(+361) 296-3004<br>Fax:(+361) 296-3001 |
| 7 | Remarks | Nil |

## LHBP AD 2.5 PASSENGER FACILITIES

| | | |
|---|---|---|
| 1 | Hotels | In the city |
| 2 | Restaurants | At AD and in the city |
| 3 | Transportation | Buses: public transport (200E)<br>Taxis: Fotaxi<br>Car hire: Avis, Buchbinder, Budget, Europcar, Hertz, Sixt<br>Airport minibus service: miniBUD |
| 4 | Medical facilities | First aid at AD, hospitals in the city |
| 5 | Bank and Post Office | Bank in the city<br>Post office: T2A open 08:00-12:00, 12:30-15:30 |
| 6 | Tourist Office | OTP Travel: T2B open 06:00-22:00<br>Budapestinfo pont: T2A open 08:00-22:00<br>Budapestinfo pont: T2B open 10:00-20:00 |
| 7 | Remarks | Money exchange: Cash machines: H24<br>Money exchange: T2A Arrivals L/S open 07:30-01:00<br>Money exchange: T2A Arrivals A/S open 08:00-01:00<br>Money exchange: SkyCourt open 04:30-22:00<br>Money exchange: T2B Departures A/S open 05:00-00:30<br>Money exchange: T2B Arrivals A/S open 07:30-02:00<br>Money exchange: T2B Arrivals L/S open 00:00-24:00 |

## LHBP AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

| | | |
|---|---|---|
| 1 | AD category for fire fighting | A9 |
| 2 | Rescue equipment | Available |
| 3 | Capability for removal of disabled aircraft | Lifting bags and hydraulic jacks available |
| 4 | Remarks | Trained personnel: 138<br>In case of expected aircraft incident or accident the aerodrome operator may introduce limitations to the arrival and departure traffic, due to fire-fighting capacity available. Expected delays will be announced by the appropriate ATC unit. |

## LHBP AD 2.7 SEASONAL AVAILABILITY - CLEARING

| | | |
|---|---|---|
| 1 | Types of clearing equipment | 18 snow ploughs/sweepers; 2 snow blowers; 5 snow scrapers/ploughs; 2 carbamid spreaders, 2 Friction testers |
| 2 | Clearance priorities | 1. RWY 31R/13L; 2. RWY 13R/31L; 3. Main TWYs - A and B; 4. other TWYs and Aprons |
| 3 | Remarks | *See AD 1.2 para 2.* |

## LHBP AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA

| | | | | |
|---|---|---|---|---|
| 1 | Apron surface and strength | Apron | Surface | Strength |
| | | APRON 1 | CONC+ASPH | PCN 50/R/B/X/T |
| | | APRON 2 | CONC | PCN 75/R/B/X/T |
| | | APRON AG | CONC | PCN 75/R/B/X/T |
| | | APRON AA | CONC | PCN 75/R/B/X/T |
| | | APRON AL | CONC | PCN 75/R/B/X/T |
| 2 | Taxiway width, surface and strength | Width: | 23 M (exception A1= 19 M) | |
| | | Surface: | Concrete or asphalt | |
| | | Strength | See ADC Chart | |
| 3 | Altimeter checkpoint location and elevation | Location: | At Aprons | |
| | | Elevation: | See PDC Chart | |
| 4 | VOR checkpoints | VOR: | See ADC Chart | |
| 5 | INS checkpoints | INS: | See PDC Chart | |
| 6 | Remarks | TWY A1 downgraded to code C ACFT (max. wingspan 36.00 M) | | |

## LHBP AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

| | | | |
|---|---|---|---|
| 1 | Use of aircraft stand ID signs,TWY guide lines and visual docking/parking guidance system of aircraft stands | Guide lines at Aprons. Nose in guidance at aircraft stands on Aprons. Sign boards at all intersections with TWY and RWY and at all holding positions. | |
| 2 | RWY and TWY markings and LGT | RWY: | Designator, THR, TDZ, centre line, edge, as appropriate. |
| | | TWY: | Centre line, holding positions on all TWYs. |
| 3 | Stop bars | Stop bars where appropriate. | |
| 4 | Remarks | Nil | |

## LHBP AD 2.10 AERODROME OBSTACLES

Data for Area 2, 3 and 4 *See GEN 3.1*

## LHBP AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

| | | |
|---|---|---|
| 1 | Associated MET Office | HungaroControl Aerodrome Meteorological Unit |
| 2 | Hours of service | H24 |
| 3 | Office responsible for TAF preparation<br>Periods of validity | HungaroControl Aerodrome Meteorological Unit; 24 HR |
| 4 | Type of landing forecast<br>Interval of issuance | TAF CODE; half hourly |
| 5 | Briefing/consultation provided | Personal consultation |
| 6 | Flight documentation<br>Language(s) used | Charts, abbreviated plain language text; English, Hungarian |
| 7 | Charts and other information available for briefing or consultation | SWL, SWM-SWH, IS (FL 050, FL 100, FL 180, FL 240, FL 300, FL 340, FL 390); other information: GAMET |
| 8 | Supplementary equipment available for providing information | Telephone/Telefax |
| 9 | ATS Units provided with information | Budapest TWR; Budapest APP; Budapest ACC |
| 10 | Additional information | For VOLMET *See GEN 3.5 para 7.* |

## LHBP AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

| Designations RWY NR | TRUE BRG | Dimensions of RWY (M) | Strength (PCN) and surface of RWY and SWY | THR coordinates RWY end coordinates THR geoid undulation | THR elevation and highest elevation of TDZ of precision APP RWY |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 13R | 132.5° GEO | 3010 x 45 | 65/R/B/X/T CONC | 472655.34N 0191314.73E<br>472549.71N 0191500.89E<br>44 M | 136.6 M<br>- |
| 31L | 312.5° GEO | 3010 x 45 | 65/R/B/X/T CONC | 472549.71N 0191500.89E<br>472655.34N 0191314.73E<br>44 M | 136.7 M<br>- |
| 13L | 132.5° GEO | 3707 x 45 | 75/R/B/X/T CONC | 472643.52N 0191527.18E<br>472522.62N 0191737.88E<br>44 M | 151.3 M<br>- |
| 31R | 312.5 ° GEO | 3707 x 45 | 75/R/B/X/T CONC | 472522.62N 0191737.88E<br>472643.52N 0191527.18E<br>44 M | 126.9 M<br>- |

| Designations RWY NR | Slope of RWY - SWY | SWY dimensions (M) | CWY dimensions (M) | Strip dimensions (M) | RESA dimensions (M) surface | Location of arresting system | OFZ | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 13R | -0.3% / 0% / +0.2% / -0.4% / +0.7% | Nil | Nil | 3130 x 300 | 240 x 90 GRASS | Nil | See relevant Obstacle Charts | Nil |
| 31L | 700 M/ 400 M/ 400 M/ 800 M/ 710 M | Nil | Nil | 3130 x 300 | 240 x 90 GRASS | Nil | | Nil |
| 13L | -0.6% / -0.65% / +0.8% / -0.85% / -0.8% / +0.25% / -0.2% | Nil | Nil | 3827 x 300 | 240 x 90 GRASS | Nil | | Nil |
| 31R | 900 M/ 160 M/ 1680 M/ 504 M/ 403 M | Nil | Nil | 3827 x 300 | 240 x 90 GRASS | Nil | | Nil |

## LHBP AD 2.13 DECLARED DISTANCES

| RWY Designator | TORA (M) | TODA (M) | ASDA (M) | LDA (M) | Remarks |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 13R | 3010 | 3010 | 3010 | 3010 | Nil |
| 31L | 3010 | 3010 | 3010 | 3010 | Nil |
| 13L | 3707 | 3707 | 3707 | 3707 | Nil |
| 31R | 3707 | 3707 | 3707 | 3707 | Nil |

## LHBP AD 2.14 APPROACH AND RUNWAY LIGHTING

| RWY Designator | APCH LGT type LEN INTST | THR LGT colour WBAR | VASIS (MEHT) | TDZ LGT LEN | RWY Centre Line LGT Length, spacing, colour, INTST | RWY edge LGT LEN, spacing colour INTST | RWY End LGT colour WBAR | SWY LGT LEN (M) colour | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 13R | CAT II/III 900 M LIH | GRN | PAPI 3° (19 M) | WHI | 3 010 M 15 M WHI/RED LIH | 3 010 M 60 M WHI/YEL | RED | Nil | Nil |
| 31L | CAT II/III 900 M LIH | GRN | PAPI 3° (18 M) | WHI | 3 010 M 15 M WHI/RED LIH | 3 010 M 60 M WHI/YEL | RED | Nil | Nil |
| 13L | CAT II/III 900 M LIH | GRN | PAPI 3° (19 M) | WHI | 3 707 M 15 M WHI/RED LIH | 3 707 M 60 M WHI/YEL | RED | Nil | Nil |
| 31R | CAT II/III 900 M LIH | GRN | PAPI 3° (20 M) | WHI | 3 707 M 15 M WHI/RED LIH | 3 707 M 60 M WHI/YEL | RED | Nil | Nil |

## LHBP AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

| | | |
|---|---|---|
| 1 | ABN/IBN location, charasteristics and hours of operation | Nil |
| 2 | LDI location and LGT<br>Anemometer location and LGT | Nil |
| 3 | TWY edge and centre line lighting | See ADC Chart |
| 4 | Secondary power supply / switch-over time | Available |
| 5 | Remarks | Nil |

## LHBP AD 2.16 HELICOPTER LANDING AREA

| | | |
|---|---|---|
| 1 | Coordinates TLOF or THR of FATO | 472607.92N 0191357.81E |
| 2 | TLOF and/or FATO elevation M/FT | 130 M |
| 3 | TLOF and FATO area dimensions, surface, strength, marking | Rectangle 120 x 120 M; GRASS |
| 4 | True BRG of FATO | 312.5° |

| | | |
|---|---|---|
| 5 | Declared distances available | Nil |
| 6 | APP and FATO lighting | Nil |
| 7 | Remarks | VFR only |

## LHBP AD 2.17 AIR TRAFFIC SERVICES AIRSPACE

| | | |
|---|---|---|
| 1 | Designation and lateral limits | BUDAPEST CTR<br>473546N 0190523E - 473358N 0191018E - 473128N 0191427E - 473230N 0191930E - 472400N 0193400E - 471500N 0192130E - 472400N 0190730E - 472700N 0190630E - 472808N 0190426E - 472939N 0190336E - 473022N 0190325E - 473546N 0190523E |
| 2 | Vertical limits | 2000 FT ALT / GND |
| 3 | Airspace classification | D |
| 4 | ATS unit call sign<br>Language(s) | BUDAPEST TOWER<br>EN, HU |
| 5 | Transition altitude | 10000 FT |
| 6 | Remarks | Nil |

## LHBP AD 2.18 AIR TRAFFIC SERVICES COMMUNICATION FACILITIES

| Service designation | Call sign | Channel(s) | Hours of operation | Remarks |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ATIS | Budapest Terminal Information | 132.380 CH | H24 | BUD VOR |
| | | 117.300 MHZ | H24 | BUD VOR |
| APP | Budapest Approach | 122.975 MHZ | H24 | Primary channel (also usable by 8.33 exempted aircraft) |
| | | 123.860 CH | H24 | |
| | | 119.510 CH | H24 | |
| | | 124.900 MHZ | H24 | Standby channel (also usable by 8.33 exempted aircraft) |
| TWR | Budapest Tower | 118.100 MHZ | H24 | Also usable by 8.33 exempted aircraft |
| | Budapest Ground | 121.910 CH | H24 | |
| | Budapest Delivery | 134.540 CH | H24 | |
| | Budapest Tower | 119.975 MHZ | H24 | Standby channel (also usable by 8.33 exempted aircraft) |

## LHBP AD 2.19 RADIO NAVIGATION AND LANDING AIDS

| MAG VAR<br>Type of supported OPS<br>(for VOR/ILS/MLS, give declination) | ID | Frequency (ies) | Hours of operation | Position of transmitting antenna coordinates | Elevation of DME transmitting antenna | Remarks |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| L | BDA | 343 KHZ | H24 | 472718.2N<br>0191237.8E | | LI 13R: 308 MAG / 1 000 M FM THR, coverage 20 NM / 37 KM, above 3 500 FT QNH |
| L | BUA | 403 KHZ | H24 | 472526.2N<br>0191538.7E | | LI 31L: 128 MAG / 1 250 M FM THR, coverage 20 NM / 37 KM, above 3 500 FT QNH |
| L | BDF | 335 KHZ | H24 | 472706.4N<br>0191450.2E | | LI 13L: 308 MAG / 1 050 M FM THR, coverage 20 NM / 37 KM, above 3 500 FT QNH |
| L | BUF | 381 KHZ | H24 | 472500.9N<br>0191813.0E | | LI 31R: 128 MAG / 990 M FM THR, coverage 20 NM / 37 KM, above 3 500 FT QNH |
| ILS 13R (CAT IIIB) | | | | | | ILS class: III.E.4 |
| LOC<br>(+3.485° / 2006) | FER | 110.5 MHZ | H24 | 472541.3N<br>0191514.5E | 140.17 M | 128 MAG / 370 M from RWY 31L |
| GP | | 329.6 MHZ | H24 | 472651.8N<br>0191329.9E | | GP Angle: 3°; ILS RDH: 15 M |
| PDME | FER | 42X | H24 | 472651.9N<br>0191330.0E | 134.71 M | 310 M from RWY 13R |
| ILS 31L (CAT II) | | | | | | ILS class: II.T.4 |
| LOC<br>(+3.485° / 2006) | FHL | 111.5 MHZ | H24 | 472702.3N<br>0191303.4E | | 308 MAG / 319 M from RWY 13R |
| GP | | 332.9 MHZ | H24 | 472555.0N<br>0191443.0E | | GP Angle: 3°; ILS RDH: 15 M |
| PDME | FHL | 52X | H24 | 472555.1N<br>0191443.1E | 135.93 M | 390 M from RWY 31L |

| MAG VAR Type of supported OPS (for VOR/ILS/MLS, give declination) | ID | Frequency (ies) | Hours of operation | Position of transmitting antenna coordinates | Elevation of DME transmitting antenna | Remarks |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| ILS 13L (CAT II) | | | | | | ILS class: II.T.4 |
| LOC (+3.49° / 2006) | BPL | 109.15 MHZ | H24 | 472515.1N 0191750.0E | | 128 MAG / 340 M from RWY 31R |
| GP | | 331.25 MHZ | H24 | 472639.7N 0191542.7E | | GP Angle: 3°; 320 M from RWY 13L |
| PDME | BPL | 28Y | H24 | 472639.7N 0191542.7E | 155 M | |
| ILS 31R (CAT IIIB) | | | | | | ILS class: III.E.4 |
| LOC (+3.485° / 2006) | BPR | 109.5 MHZ | H24 | 472651.3N 0191514.7E | 156.95 M | 308 MAG / 340 M from RWY 13L |
| GP | | 332.6 MHZ | H24 | 472525.6N 0191723.3E | | GP Angle: 3°; ILS RDH: 15 M |
| PDME | BPR | 32X | H24 | 472525.8N 0191723.5E | 131.37 M | 290 M from RWY 31R |
| DVOR/DME (decl.: +4.4°) | BUD | 117.3 MHZ 120X | H24 | 472701.6N 0191458.0E | 162 M | Coverage: 100 NM/185 km ATIS is also transmitted. DME COORD: 472701.4N 0191457.5E |
| NDB | JBR | 517 KHZ | H24 | 472937.5N 0195340.6E | | Coverage: 30NM/55km |
| DVOR/DME (decl.:+4.3°) | MNR | 112.5 MHZ 72X | H24 | 472005.0N 0192419.7E | 141 M | Coverage: 100 NM/185 km DME COORD: 472004.7N 0192420.1E |
| NDB | MNR | 288 KHZ | H24 | 472016.1N 0192359.2E | | Coverage: 60NM/110km |
| DVOR/DME (decl.: +3.5°) | PTB | 117.1 MHZ 118X | H24 | 470908.0N 0184432.3E | 131 M | Coverage: 100 NM/185 km DME COORD: 470907.6N 0184432.1E |
| DVOR/DME (decl.: +3.9°) | TPS | 115.9 MHZ 106X | H24 | 472935.7N 0192646.4E | 254 M | Coverage: 100 NM/185 km DME COORD: 472935.8N 0192645.8E |
| NDB | TPS | 306 KHZ | H24 | 472936.2N 0192644.6E | | Coverage: 60NM/110km |

## LHBP AD 2.20 LOCAL AERODROME REGULATIONS

### 1. EN ROUTE CLEARANCE ISSUANCE AND CTOT-RELATED PROCEDURES

**1.1.** All departing traffic is requested to contact Budapest Delivery or Budapest Ground, whichever is defined by ATIS, 20 minutes prior to EOBT or CTOT- whichever is the latest - providing their call sign, aircraft type, destination and stand/gate number.

**1.2.** Budapest Delivery or Budapest Ground issues en route clearances (clearance limit, SID or discrete departure route, cleared altitude) and allocates squawk. *See LHBP AD 2.22 FLIGHT PROCEDURES*.

**1.3.** When the flight is subject to the slot allocation procedure, all slot-related coordination is provided by Budapest Delivery or Budapest Ground including forwarding REA messages. Aircraft under slot allocation procedure shall continuously monitor the Budapest Delivery or Budapest Ground frequency until further

advice is received.

**1.4.** When the slot of the flight has expired (aircraft is not ready for start up at 10 minutes prior to CTOT), ATC will not issue start-up clearance and the operator (or its representative) shall request a new slot.

## 2. START-UP, PUSH-BACK AND POWER-BACK PROCEDURES

**2.1.** An aircraft may request start up clearance only when:

- aircraft service has been completed;
- all doors are closed;
- all the ground staff have left the related stand (except start up control officer);
- the towing car is ready to move the aircraft;
- ATC clearance is already received and
- the aircrew is ready to commence start up in 1 minute.

At parking positions Terminal 1: R101-R108, R110-R117, G150-155, and Terminal 2: 31-34, 38-40, 42-45 and R270-R277, R278-R279-R278A for ICAO Code D, E aircraft, R220-R223, R224-R227, the start up of engines and taxi out shall be performed using the push-back procedure. The towing bar for the given aircraft type shall be provided by the carrier or by the handling company. The only exceptions are prop/turboprop aircraft with MTOW 36.000 KG or less following power back procedures on stands R220-R223, R224-R227 and stand R101 where self manoeuvring is allowed for prop/turboprop ACFT up to ICAO code D.

**2.2.** When the aircrew is ready, as described above, request the start-up and the push-back/power-back clearance from Budapest Ground, stating the stand number, and confirming receipt of ATIS information by reading back the QNH.

If the flight is subject to slot allocation procedure, the latest time to issue the start-up clearance is 10 minutes prior to CTOT. (*See LHBP AD 2.20 LOCAL AERODROME REGULATIONS*).

**2.3.** After receiving the approval and instructions of Budapest Ground the aircraft may commence push-back and start-up engines immediately, with the pilot informing or indicating the approval and facing of the aircraft, and other relevant information to the connected ground staff. The pilot shall indicate to the ground staff the full release of the parking brakes. The start-up and push-back procedure shall be initiated on the instruction of the connected ground staff. In case of multi-engine aircraft, separate clearance to start-up should be requested for each engine from the ground staff. In case of no ground-cockpit connection, Budapest Ground shall be advised so that Marshaller assistance can be provided to control the procedure. Visual signals provided by the Marshaller during start-up and push-back are in line with those of ICAO Annex 2 Appendix 1, Marshalling Signals.

At parking positions R220-R223, R224-R227, start-up of engines and taxi out could be performed with the power-back procedure for prop and turbo prop aircraft, if the MTOW is not more than 36.000 KG as advised by Airfield Operations Service provided by the airport (Follow Me staff) The power-back procedure is not applicable when Low Visibility Procedures are in force or the published braking action is at or less than medium to poor.

The start-up and push-back procedures from stand 31, 32, 44 are restricted. Engine start-up during the push-back procedure is allowed in idle power only.

The start-up and push-back procedures from stand 45 are restricted. Engine start-up during the push-back procedure is not allowed (silent push-back). It is only allowed at the break away point.

Leaving the parking position using the power-back procedure shall be performed by following the visual signals of Marshaller. Aircraft following the start-up, push-back or power-back procedures should be ready for taxi within 4 minutes after off-block time.

**2.4.** When engine start-up or power-back procedure is complete, request taxi clearance from Budapest Ground and indicate receipt of clearance to the ground staff. The disconnected ground staff will give approval to commence taxiing.

If an aircraft is unable to comply with the detailed conditions above or has to halt the start-up procedure due to technical or any other reasons, it shall immediately advise Budapest Ground.

*Remark: generally, the connected ground staff are provided by the ground handling company. In special circumstances the Budapest Apron Management Service will provide the Marshaller for start-up and push-back procedures.*

## 3. TAXI PROCEDURES

### 3.1 Taxi clearances

Crossing of the active RWY 13R/31L is only permitted with specific clearance. In the absence of a specific clearance to cross the active runway ahead, the aircraft shall not proceed beyond the relevant taxi holding point. Clearance for crossing the active runway is issued by Budapest Tower on 118.100 MHZ frequency.

### 3.2 Taxi procedures general

**3.2.1** On Apron 1 and 2, a Marshaller is not provided in normal circumstances. The service is only provided in special circumstances, as follows:

- The Apron Management or TWR consider it is necessary due to the complexity of the traffic situation,
- The aircraft is parking on an unpublished stand,
- The aircraft is ICAO Code "E" or "F",
- The RVR is less than 400 metres,
- Surface markings on the apron can-not be or can barely be identified,
- Braking action on the apron is "2 (medium to poor)", or worse,
- The flight status is STATE or HEAD,
- General Aviation flights,
- In the case of air taxiing of rotary wing aircraft on the apron, except domestic police helicopter,
- If the SAFEDOCK T2-18 system is not operational,
- On pilot request.

**3.2.2** On Apron AG, taxiing is only allowed with a Marshaller.

On Apron AA and Apron AL, taxiing is not allowed. Only the towing of the aircraft is allowed between the stand and breakaway point.

The maximum taxi speed on the aprons shall not exceed 16 KT.

**3.2.3** If departing or arriving aircraft must stop taxiing for any reason and it is necessary to open an external door(s), the aircraft shall report this to ATC. Except in cases of emergency, door(s) may only be opened in the presence of the border guards' personnel.

**3.2.4** Taxiing aircraft have to maintain continuous radio contact with Budapest Ground or Budapest Tower while taxiing on the area.

**3.2.5** ATC may activate stopbars to regulate traffic on the taxiways in any weather conditions. Taxiing aircraft shall stop in front of an active stopbar in all circumstances, regardless of the taxi clearance limit. Further taxiing is only allowed after the deactivation of the stopbar and in accordance with verbal clearance from ATC.

**3.2.6** Taxi holding points are designated as follows:

| Holding point | RWY | on TWY segment |
|---|---|---|
| A1 | 31L | A1 |
| A2 | 31L | A2 |
| A9 | 31R | A9 |
| B1 | 13R/31L | B1 |
| B2 | 13R/31L | B2 |
| B5 | 13L | B5 |
| C | 13R | C |
| D | 13R | D |
| K | 13L | K |

| Holding point | RWY | on TWY segment |
|---|---|---|
| X | 31R | X |

*See TWY segments on chart AD2-LHBP-ADC*

*When low visibility procedures are in force, the same holding points shall be used.*

**3.2.7** Apron exit points are designated as follows:

Terminal 1:

| Exit point | Description |
|---|---|
| D | connection of Apron 1 and TWY D |
| C | connection of Apron 1 and TWY C |
| B1 | connection of Apron 1 and TWY B1 |
| A1 | intersection of TWY A1 centreline and taxilane centre line of GA hangars area |

Terminal 2:

| Exit point | Description |
|---|---|
| U | intersection of service road and TWY U |
| T7N | intersection of service road and TWY T7N |
| T7S | intersection of service road and TWY T7S |
| P1 | intersection of service road and TWY P1 |
| L | intersection of service road and TWY L |
| P4 | intersection of service road and TWY P4 |

*See TWY segments on Chart AD-2-LHBP PDC-1 and PDC-2*

**3.2.8** In case of emergency, notify the appropriate unit on the currently used frequency.

### 3.3 Taxi procedures for arriving aircraft

ATC expects arriving ACFT to vacate runways via the rapid exit TWYs. If unable to do so, notify Budapest Tower on 118.100 MHZ in advance or immediately after landing. Arrivals on RWY 13R to T1, use TWY B1 or A1. Restrictions on rapid exit TWYs J4, Y and Z will be provided by Budapest Tower with landing clearance. During Low Visibility Operations, pilots shall report RWY vacation to Budapest Tower on 118.100 MHZ.

After vacating the RWY, without further notice, pilots shall immediately contact Budapest Ground on 121.910 CH for detailed taxi instructions, if not otherwise instructed by ATC. Further taxiing to the designated stand is only allowed when cleared by Budapest Ground or Budapest Tower.

#### 3.3.1 Movement on aprons

Normally ACFT taxi on the aprons when cleared to do so by Budapest Ground. ACFT may taxi to stands R101-108, R110-R117, 31-34, 38-40, 42-45, R210-R212, R220-223, R224-227, R270-R279 by themselves following the painted taxi lines, except under special circumstances (listed in 3.2.1 above)

ACFT may taxi to stands G150-G172 is mandatory escorted by "FOLLOW ME" vehicle.

The responsibilities of Budapest Ground only extend to the provision of appropriate information in order to prevent collisions between aircraft.

When taxiing without "FOLLOW ME" assistance pilots are responsible for the safety of taxiing.

When an aircraft follows the "FOLLOW ME" car, the driver of this car is responsible for obstruction free taxiing.

Visual signals used by the ground staff during parking are those listed in ICAO Annex 2, Appendix 1, part 5.

Parking on the stands shall be carried out following the ground staff's visual signals; docking to aviobridges

shall be made according to the signals of the SAFEDOCK T2-18 system. If the SAFEDOCK T2-18 system is inoperative docking shall be performed following the Marshaller‘s instructions.

### 3.4 Taxi procedures for departing aircraft

At the stand, taxi clearance to the designated holding point of the runway will be given by Budapest Ground.

#### 3.4.1 Movement on the aprons

Normally aircraft taxi on the aprons cleared to do so by Budapest Ground.

Aircraft may taxi on the apron by themselves following the painted taxi lines, except under special circumstances (listed in 3.2.1 above).

The responsibilities of Budapest Ground only extend to the provision of appropriate information in order to prevent collisions between aircraft.

When taxiing without "FOLLOW ME" assistance, pilots are responsible for the safety of taxiing.

When an aircraft follows the "FOLLOW ME" car, the driver of this car is responsible for obstruction free taxiing.

### 3.5 Operation of Mode S transponders when the aircraft is on the ground

A surface movement guidance and control system (ASMGCS), using Mode S multilateration operates at Budapest Liszt Ferenc International Airport.

Aircraft operators intending to use Budapest Liszt Ferenc International Airport shall ensure that the Mode S transponders are able to operate when the aircraft is on the ground.

#### 3.5.1 Procedures to be followed by pilots

Select “AUTO” mode and assigned Mode A code, or if “AUTO” mode is not available, select “ON” (e.g. “XPDR”) and assigned Mode A code:

- from the request for push-back or taxi, whichever is the earlier
- after landing, continuously until the aircraft is fully parked on stand, and

Select “STBY”, when fully parked on the stand.

Whenever the aircraft is capable of reporting Aircraft Identification (i.e. callsign used in flight), the Aircraft Identification should also be entered from the request for push-back or taxi, whichever is earlier, through the FMS or the Transponder Control Panel.

Flight crew shall use the Aircraft Identification format, as defined by ICAO (e.g. SAS589, BAW869).

To ensure that the performance of systems based on SSR frequencies (including airborne TCAS units and SSR radars) is not compromised:

- When the aircraft is departing, TCAS should not be selected before receiving the clearance to line up
- When the aircraft is arriving, TCAS should be deselected after vacating the runway.

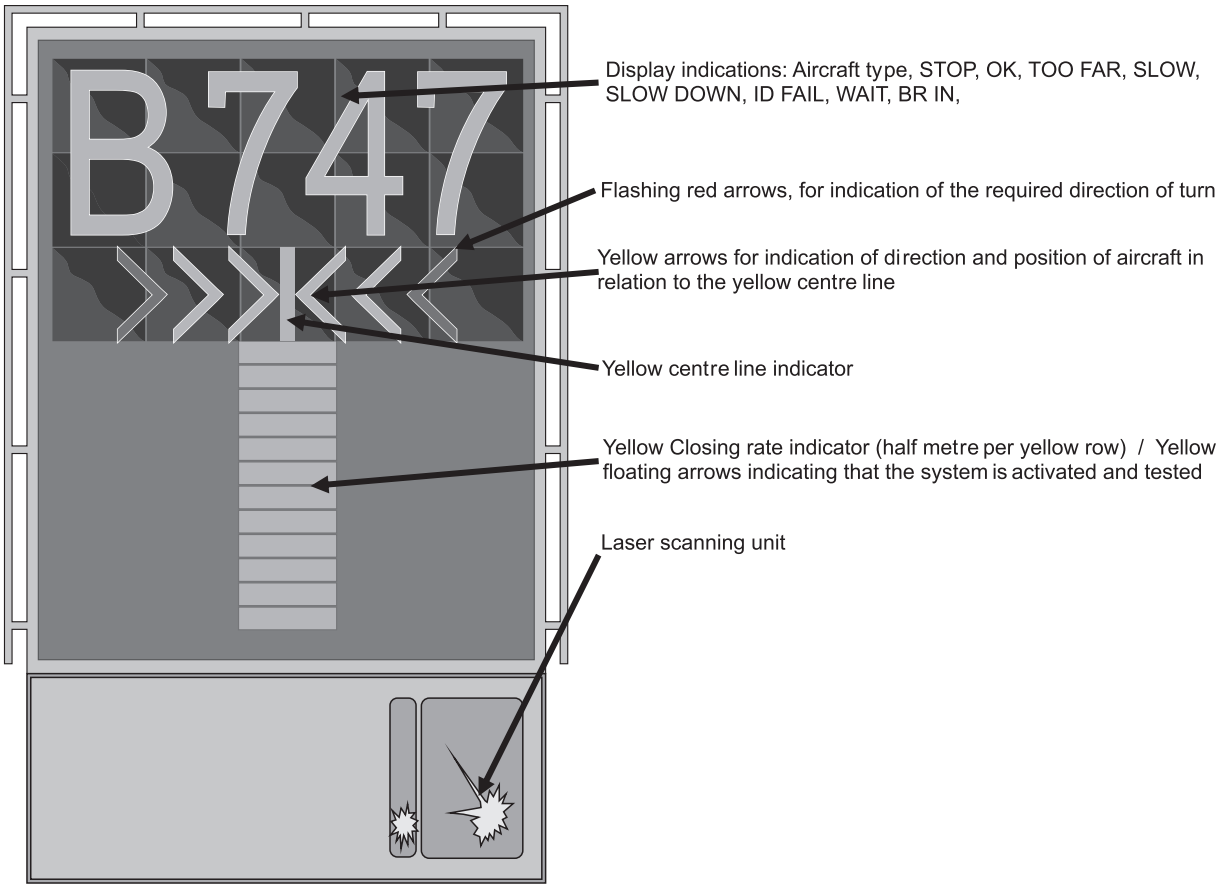
For aircraft taxiing without flight plan, Mode A code 2000 should be selected.

## 4. OPERATION OF DOCKING SYSTEM AT TERMINAL 2A, B

At parking positions 31-34 and 42-45 SAFEDOCK T2-18 system is in operation.

### 4.1 System description

The SAFEDOCK T2-18 system is a microprocessor controlled laser scanning device which directs an approaching aircraft to the terminal gate stopping position with the assistance of a real time display unit that is clearly visible from the cockpit.




### 4.2 Docking procedure

1. Follow the taxi line to gate 31-34 or 42-45.
2. Check correct aircraft type, the flashing arrows of direction and floating arrows (the system is activated and ready for the docking procedure).
3. When the aircraft has been detected by the system the floating arrows are replaced by the closing rate indicator.
   - Watch the yellow centre line indicator, the flashing arrow indicates the correct azimuth guidance.
   - Watch the flashing red arrows for required direction of turn.
4. When the aircraft is 12 M from the stop position, the closing rate indicating the remaining distance to the stop position is indicated by turning off one row per half metre.
5. If the docking speed of the aircraft is more than 4 KT, SLOW DOWN is displayed to allow for correct docking.
6. At the correct stop position all yellow closing rate indicator bars are switched off, the STOP sign is displayed and 2 red lights will be lit.
7. When the aircraft has parked correctly, the OK sign is displayed.

8. When the aircraft has overshot the stop position, the TOO FAR sign is displayed.

#### 4.2.1 Warnings

1. When the detection of the aircraft is not possible (the closing rate indicator does not appear), the aircraft has to stop at a safe distance from the aviobridge (as primary obstacle) and has to wait for the marshaller's manual guidance.The floating arrows only indicate that the docking system is activated and tested for the identified aircraft.
2. When the identification of the aircraft is not made 12 M before the correct stop position, the STOP then ID FAIL signs are displayed. In this case, the docking procedure has to be interrupted. The aircraft has to wait for the system to restart or for manual guidance by the marshaller.
3. During heavy fog, opposite sunlight or snow, the visibility of the docking system can be reduced. In this case, the display deactivates the floating arrows and the SLOW sign is displayed. This configuration is superseded by the closing rate indicator bar, as soon as the system detects the approaching aircraft.
4. Due to length of the aviobridge, the following aircraft types have to shut down the engines on the port side (left) just after turning onto the centre line of the stands 31, 42, 43, 44 and 45 (Airbus A319, Boeing B737-500, B737-600, Bombardier CS100 and Embraer E170/175).

## 5. THE RULES OF ENGINE TESTING

### 5.1 General

The functional testing of aircraft engines on the ground is subject to permission. The selection of the location and the time for the activity is dependent on the size category of the aircraft and the power of the engine test.

Engine power tests (on power levels higher than idle power) for up to ICAO code C aircraft must be performed at the engine test stand constructed for this purpose. Deviations from this are only permitted as detailed in section 5.4.

Engine power tests for aircraft larger than ICAO Code C may be performed at the location and with the conditions described in section 5.4.

The obstacle-free nature (FOD) and cleanliness of the area must be verified in all cases. In case of any issues, the Airport Operations Control Centre (AOCC airside controller: phone: (+361) 296-6914) must be notified.

The appropriate brake blocks must be provided for engine tests, and the presence of the hand-held fire extinguishers must be checked at the site.

Any surface pollution generated during engine testing must be reported to the AOCC.

Continuous two-way radio contact must be maintained with the unit competent in the area during engine testing.

The time periods specified in this section shall be interpreted as follows: all periods include the starting time of the period, but not its closing time.

### 5.2 Permitting procedure

Requests for engine power tests must be sent to the AOCC in advance, at least 24 hours prior to the planned time of the engine test. The AOCC confirms the approval of the request to the applicant.

Email:airport.ops@bud.hu

Permission for actual engine start-up must be requested from the unit responsible for traffic management in the given area, by DRR radio (or air-to-air radio on the frequency of the competent unit in the given area), and the completion of the engine test must be reported to the same unit.

- Apron: Terminal 1 and Terminal 2 apron, engine test stand, helicopter tie-down position, Apron AA, AG, AL;
- TWR GRD: B5 holding bay, taxiways outside of the terminal and technical aprons, runways.

The AOO service records the most important specifics of engine tests (e.g. beginning and end of test, aircraft type, name of the company performing the test, location, etc.) using the form "Engine test voucher".

### 5.3 Engine tests at idle power

Engine tests at idle power may be performed at the following locations, with a maximum of one engine, for a maximum of 5 minutes, without restriction in terms of the time of day:

- On the stands of the Terminal 1 apron, with no exception of stands;
- On the stands of the Terminal 2 apron, with no exception of stands;
- On the AA, AG, AL apron section, on the marked taxi lane, at the starting position marked at the apron exit point.

Engine tests at idle power may be performed at the locations listed in points 1-3 in section 5.4 without restriction in terms of the time of day and the duration of the test.

### 5.4 Engine power tests

Engine power tests may only be performed at the following locations:

1. At the engine test stand established for aircraft up to ICAO code C, without restriction in terms of power, time of day and the duration of the test;
2. For helicopters at the helicopter tie-down position next to the engine test stand, without restriction in terms of power, between 0700 - 1700 (0600-1600);
3. If the engine test stand is not suitable for the performance of the test for whatever reason, the B5 holding bay or taxiway A9 may also be designated as a power test area, between 0700 - 1700 (0600 - 1600).

If engine power testing is necessary between 1700 - 2100 (1600-2000) or between 0500 - 0700 (0400-0600) at the locations listed in point 3 above, the prior written permission of the National Transport Authority Office for Air Transport must also be obtained separately at least 24 hours prior to the planned time of the engine test, and must be attached to the request, to be submitted to the AOCC. The compliance of the engine test with the contents of the authority permission is overseen and checked by the duty airside manager (DAM).

It is prohibited to perform engine power test between 2100 - 0500 (2000-0400) outside the engine test stand.

### 5.5 The operational rules of the engine test stand

The procedural rules for the operation of the engine test stand are outlined in appendix M4-9. of the Airport Rules.

URL:http://www.bud.hu/english/budapest-airport/facts_about_bud/airport_rules

### 5.6 The fee payable for functional engine testing

Budapest Airport Zrt. may levy an area usage fee for testing in the areas where engine power testing may be performed.

## 6. PLANNING, AUTHORISATION AND EXECUTION OF TRAINING, CALIBRATION, DEMONSTRATION OR CERTIFICATION FLIGHTS AT BUDAPEST LISZT FERENC INTERNATIONAL AIRPORT

### 6.1 Planning and authorisation of training flights

**6.1.1** The time periods specified in this section shall be interpreted as follows: all periods include the starting time of the period, but not its closing time.

**6.1.2** Training flights, demonstration flights and certification flights may not be planned and executed:

- On workdays between 2100 - 0500 (2000-0400);
- On bank holidays between 1700 - 0700 (1600-0600).

Calibration flights may be executed on workdays and bank holidays between 0500 - 2100 (0400-2000).

**6.1.3** Training flights shall be grouped in such a way that, if possible, different exercises should follow each other, in order to avoid the continuous noise pollution of the same residential areas. A maximum of three exercises may be planned in a sequence for the same route.

**6.1.4** Requests for the execution of training flights must be submitted at least one workday in advance to Budapest Airport Ltd. Airport Operation Control Centre (AOCC):

Phone:(+361) 296-7421 or

Phone:(+361) 296-6914

Email:airport.ops@bud.hu

providing the following data:

- Aircraft registration marks and call sign,
- Aircraft type,
- The nature and the planned time of the exercise.

**6.1.5** Training flights initially authorised by the AOCC may be subject to ATC restrictions on the day of execution if this is warranted due to the traffic situation, weather conditions or technical failures. ATC shall inform the AOCC of this. The AOCC shall inform the aircraft crew / operator about the authorisation / prohibition of the training flight.

**6.1.6** Maintenance organizations are obliged to inform the AOCC at least 24 hours prior to the planned time of certification flight about the planned time and the nature of flight.

**6.1.7** In case of demonstration flights planned over the area of the airport, the organization responsible for the event must request consent from the AOCC to holding the event, prior to initiating the permitting procedure with the aviation authority.

When requesting consent, the following information shall be provided to the AOCC:

- Aircraft registration marks and call sign,
- Aircraft type,
- The nature, the planned time and duration of the demonstration flight.

**6.1.8** Only one training-, or calibration-, or demonstration or certification flight may be authorised in the CTR or in the TMA below 4 000 FT AMSL at any one time.

**6.1.9** Rules on runway use for training flights and certification flights:

**In case of runway direction 31**
Training or certification flights may be authorised for RWY 31R. Such flights (with the exception of police training flights) may only be authorized for RWY 31L if RWY 13L/31R is not available.

**In case of runway direction 13**
Training flights may not be authorised for RWY 13. Certification flights may be authorized for RWY 13R. If RWY 13R/31L is not available, certification flights may be authorised for RWY 13L.

**6.1.10** In case of demonstration flights, prior authority coordination and permitting is required with respect to runway use as well.

## 6.2 Execution of training, demonstration or certification flights

During training flights, with the exception of emergency cases, English RTF phraseologies shall be used.

Note: The English expressions of the different manoeuvres which can be made after the approaches are listed in *See 6.2.1* c) below.

**6.2.1** Flight procedures can be expected:

a. For heavy and medium wake turbulence category aircraft:

| Calibration, demonstration or certification flight | | | |
|---|---|---|---|
| **RWY** | **Route** | **Altitude** | **Flight rule** |
| 31R/L | RWY HDG or RADAR VECTOR | 2 500 FT AMSL | VFR/IFR |
| 13R/L | | | |

| Training flights | | | |
|---|---|---|---|
| 31R/L | RWY HDG or RADAR VECTOR | 2 500 FT AMSL | VFR/IFR |

Note: Deviation from the prescribed track and altitude is only allowed by ATC clearance.

b. For light wake turbulence category prop and turboprop aircraft:

| Training flight | | | |
|---|---|---|---|
| **RWY** | **Traffic circuit** | **Altitude** | **Flight rule** |
| 31R | RIGHT | min. 1 500 FT AMSL max. 2 500 FT AMSL | VFR |
| 31L | LEFT | | VFR |

Note: Deviation from the prescribed track and altitude is only allowed by ATC clearance.

c. The pilot shall report the requested manoeuvre after approach to the air traffic controller when flying downwind, before turning on to the base leg, at the latest, and to the tower controller during final approach when radio contact is established. The following expressions can be used:

- continue on traffic circuit;
- full stop;
- touch-and-go;
- low approach.

### 6.3 ATC procedures

**6.3.1** If the ATC requires the aircraft to discontinue the approach and to turn in a defined direction and/or to climb, the expression ”CANCEL, I SAY AGAIN CANCEL APPROACH” is used and supplemented with further instructions, as necessary (e.g. TURN RIGHT HEADING 040 degree and CLIMB TO ALTITUDE 2 500 FT).

**6.3.2** If the ATC requires the aircraft to carry out the missed approach procedure published in the AIP, the expression ”GO AROUND, I SAY AGAIN GO AROUND EXECUTE MISSED APPROACH PROCEDURE!” is used and supplemented with further climb/heading instructions, as necessary.

## LHBP AD 2.21 NOISE ABATEMENT PROCEDURES

### 1. GENERAL PROVISIONS

The aim of noise abatement procedures is to mitigate the impact of noise generated by aircraft at the airport and on the residential areas affected by landing and take-off procedures.

Budapest Ferenc Liszt International Airport may be used by aircraft which comply with the requirements prescribed by joint decree no. 18/1997 (X. 11.) of the Minister of Transport, Telecommunication and Water Affairs and of the Minister of Environmental Protection and Regional Development.

Only aircraft which comply with chapters 3, 4, 5, 6, 8, 10 and 11 of part II, volume I of annex 16 of the Convention on International Civil Aviation signed on 7 December 1944 in Chicago (ICAO Convention), or with stricter requirements in terms of noise emissions than the aforementioned regulations, may use the airport on a regular basis.

The airline or aircraft operator planning to use the airport is obliged to send to the airport operator in advance the noise certification of its aircraft intending to use the airport. The noise certificate must be sent in advance by email or by fax to:

Email:aodm@bud.hu

Phone:(+361) 296-6890.

The selection of the runway to be used is performed by ATC on the basis of the regulations specified below.

The time periods specified in this chapter shall be interpreted as follows: all periods include the starting time of the period, but not its closing time.

## 2. SELECTION OF RUNWAY-IN-USE

The direction in which aircraft take off and land is determined by the speed and direction of the surface wind or by the preferential runway system.

The term “runway-in-use” is used to indicate the runway that - at a particular time - is considered by ATC to be the most suitable for use by the types of aircraft expected to land or take off according to the preferential runway system.

Normally, an aircraft will take off and land into the wind, unless safety, runway configuration or traffic conditions determine that a different direction is preferable. However, in selecting the runway-in-use, ATC shall also take into consideration other relevant factors such as the aerodrome traffic circuits, the length of the runway, the approach and landing aids available, meteorological conditions, aircraft performance, the existence of a preferential runway system and noise abatement.

Accepting a runway is a pilot’s decision. If the pilot-in-command considers the runway-in-use not usable for the reason of safety, he shall request permission to use another runway. ATC will accept such request, provided that traffic and air safety conditions permit.

### 2.1 Noise preferential use of Runway System

#### 2.1.1 Runway configuration scheme (normal operation)

| | BTN 2300 - 0400 (2200-0300) | BTN 0400 - 0700 (0300-0600) | BTN 0700 - 2300 (0600-2200) |
|---|---|---|---|
| TAKE OFF | 13L | 13L | 31L |
| LANDING | 31R | 13R | 31R |

#### 2.1.2 Runway configuration scheme (single runway operation)

| | BTN 2300 - 0400 (2200-0300) | BTN 0400 - 2300 (0300 to 2200) |
|---|---|---|
| TAKE OFF | 13L or 13R | 31R or 31L |
| LANDING | 31R or 31L | 31R or 31L |

Times of RWYchangeover are subject to flexibility in order to ensure transition in safe conditions. ATC will operate the changeover as close as possible from the indicated time, taking into account the traffic conditions.

#### 2.1.3 In the case of RWY direction 31

In the case of all traffic arriving at Terminal 2 and ICAO Code E traffic arriving at Terminal 1, RWY 31R, and, in the case of ICAO Code A, B, C and D traffic arriving at Terminal 1, RWY 31L is to be used, but if traffic conditions require, RWY 31R can also be used for landing. In case of departing traffic, RWY 31L is to be

used for take-off.

**2.1.4 In the case of RWY direction 13**

In case of arriving traffic, RWY 13R is to be used for landing. In the case of traffic departing from Terminal 2 and ICAO Code E traffic departing from Terminal 1, RWY 13L, and, in case of ICAO Code A, B, C and D traffic departing from Terminal 1, RWY 13R is to be used, but if traffic conditions require, RWY 13L is to be used for take-off.

**2.2 Nighttime (between 2100 - 0500 (2000-0400)) – Operational regulations which differ from daytime**

For noise protection reasons, primarily RWY 31R or RWY 13R are to be used by arriving traffic during the night, in compliance with the authority resolution on the designation of noise protection zones. Light turbulence category aircraft arriving for the Terminal 1 apron may also use RWY 31L for landing between 2100 - 2300 (2000-2200) and between 0400 - 0500 (0300-0400).

For noise protection reasons, between 2300 - 0400 (2200-0300), RWY 13L is to be used for take-off and RWY 31R is to be used for landing. In the case of RWY 13L/31R being closed during this period, RWY 13R is to be used for take-off and RWY 31L is to be used for landing.

**2.3 Exceptions**

Other than the cases specified in section 7, deviation from the basic rules on RWYuse is only possible under the following circumstances:

- during the closure of one of the two RWYs due to maintenance works, or another unexpected event;
- in case of calibration flights;
- if no ILS approach is available on the runway selected on the basis of standard regulations.
- when the crosswind component exceeds 15 KT or more (gusts included);
- when the tailwind component exceeds 5 KT or more (gusts included);
- when wind shear has been reported or forecast, or when thunderstorms are expected to affect arriving or departing traffic;
- when pilots report excessive wind at higher altitudes resulting in go-arounds;
- when the runways are contaminated or when estimated surface friction is less than good;
- for landing, when the ceiling is lower than 500 FT or the visibility is less than 1900 M;
- for departure, when the visibility is less than 1900 M;
- when alternative runways are successively requested by pilots for safety reasons.

Gust components are derived from the maximum three second average wind speed which occurred during the last ten minutes (or a shorter period in case of a marked discontinuity).

## 3. NOISE ABATEMENT ARRIVALS

**3.1.** With the exception of aircraft using visual flight rules (VFR) and calibration aircraft, primarily the instrument landing procedure of the highest available level shall be used during landing, except if the pilot of the aircraft expressly requests a lower level approach procedure. In case of the unrestricted availability of both runways and their navigation equipment, visual approach procedures may not be used on threshold 13L.

**3.2.** The noise abatement behaviour expected of aircraft pilots during arrivals is as follows:

- Prior to final approach, the last reported altitude must be maintained for as long as possible.
- The reduction of the speed of the aircraft and the release of the landing gear and of high lift devices must be planned so that the conditions for a stabilised approach and the appropriate approach speed are in place by 5 NM from the touchdown point, at the latest, on the final approach.
- Descent during final approach should be controlled so that increases to engine power can be avoided as much as possible.
- The use of reverse thrust should be limited to idle thrust, except if aviation safety considerations require the use of a higher level of thrust (e.g. if the RWY is wet or snowy).

## 4. NOISE ABATEMENT DEPARTURES

**4.1.** The use of taxiways for RWY 13L/31R for departing aircraft for noise abatement reasons:

- In the case of departure from RWY 13L, take-off shall be planned from taxiway intersection K.
- If a departing aircraft belonging to the medium or heavy turbulence category receives/is given RWY 31R for take-off, it must commence take-off from the end of the RWY, using TWY A9. If RWY 13R/31L is not available, a runway 31R take-off from taxiway intersection X may also be permitted for flow management reasons.

**4.2.** Noise abatement take-off procedures, specified in section 7 of part I. of ICAO Doc 8168-OPS/611 (PAN-OPS) Volume I. (5th edition, 2006), must be used during take-off, except if this is not recommended by the pilot of the aircraft or ATC due to foreseeable reasons (meteorological or aviation safety). If the noise abatement take-off cannot be executed due to foreseeable reasons, ATC must record this fact.

**4.3.** The noise abatement take-off procedure must be executed in accordance with the NADP procedures described in the appendix to chapter 3 of section 7 of part I. of ICAO Doc 8168-OPS/611 (PAN-OPS) Vol. I. (5th edition, 2006).

**4.4.** The altitude / speed constraints and the valid flight paths for take off, landing, arrival and departure procedures (SID/STAR) are specified on the maps in chapter AD 2 LHBP of the AIP.

**4.5.** Compliance with the SID procedure published in the AIP is mandatory for aircraft performing IFR flights up to an elevation of QNH 7 000 FT (2 150 M) AMSL in case of RWY direction 31 and up to QNH 4 000 FT (1 200 M) AMSL in case of RWY direction 13, except for turboprop and light turbulence category aircraft or aircraft requesting a cruise altitude of less than 9 500 FT.

## 5. NIGHTTIME TRAFFIC RESTRICTIONS

**5.1.** At nighttime, the number of movements of scheduled and non-scheduled commercial landings and take-offs may be planned as follows:

- 50 movements between 2100 - 0500 (2000-0400);
- Out of this, 6 movements between 2300 - 0400 (2200-0300).

## 6. RESTRICTIONS ON THE USE OF AUXILIARY POWER UNIT (APU)

**6.1.** Aircraft operators must act circumspectly regarding noise burdens arising from the use of auxiliary power units (APUs), in order to protect the area surrounding the airport:

- The operation of APUs must be stopped at the latest within 5 minutes of arrival on stands equipped with a ready-installed external power source, in operational condition;
- APUs may only be restarted for essential technical checks, or immediately prior to planned departure to ensure appropriate conditions in the passenger cabin and for electronic systems; maximum 5-30 minutes prior to passenger boarding, depending on the aircraft type;
- The operation of APUs is not permitted without the presence of trained specialist staff.

**6.2.** During nighttime, the duty airside manager (DAM) checks the airfield operational areas and warns the crews or the ground handling agent of aircraft breaching regulations on the use of APUs.

## 7. EXCEPTION

The restrictions listed in 1. – 6. do not apply to the following cases:

- If the aircraft is in an emergency;
- Movements of aircraft operating due to various exceptional purposes, such as for humanitarian purposes, emergency search and rescue operations, medical assistance, patient transportation and life-saving (including the transportation of organs for transplantation, blood plasma and medication), as well as for disaster relief operations;
- Aircraft participating in government flights, including movements for military, customs, law enforcement, fire-fighting, criminal investigation and national security purposes, as well as movements serving the transportation of heads of state and government on official visits;
- The restrictions also do not apply to exceptional cases when their enforcement would endanger aviation safety, under the given circumstances. The aviation safety justification must in all cases be attested by the party making reference to it.

## LHBP AD 2.22 FLIGHT PROCEDURES

### 1. LIMITATIONS FOR ARRIVING TRAFFIC

**1.1.** Speed restriction:

- Speed 160 KIAS at 4 NM from the runway threshold.
- Speed limits apply at specified waypoints for track containment purposes.

**1.1.1** Pilots who are unable to comply with this speed assignment, shall inform ATC accordingly.

**1.2.** Due to the limited airspace available, it is of importance that the approaches to the patterns and the holding procedures are carried out as precisely as possible. Pilots are strongly requested to inform ATC if, for any reason the approach and/or holding cannot be performed as required.

**1.3.** Spacing on finals is based on calculated runway occupancy times. ATC expect all aircraft to vacate the runways within the timeframes detailed, as follows:

- 13R – 80 SEC
- 13L – 60 SEC
- 31L – 60 SEC
- 31R – 50 SEC

If aircraft are not able to vacate the runway within these time frames crews are requested to notify ATC at once.

**1.4.** All arriving traffic to LHBP without RNAV1-GNSS required capability should advise the appropriate ATC unit at first contact and request radar vectors for the relevant conventional ILS/LOC approach. In case of missed approach request missed approach instructions from Budapest Tower.

### 2. HANDLING THE ARRIVING TRAFFIC IN BUDAPEST TMA

**2.1.** The GPS/FMS RNAV arrival procedures and standard IAPs for Budapest Liszt Ferenc International Airport, including the radar vector techniques used in the Budapest TMA, do not make full use of the different sorts of technology (FMS and / or GPS) available in many aircraft.

**2.2.** To guarantee optimal utilisation of these modern on-board systems, so-called "RNAV arrival - Transition to final approach" and "T-bar base instrument approach" procedures have been implemented at Budapest Liszt Ferenc International Airport, which comply with the radar vector practices applicable to this airport.

**2.3.** "RNAV arrival - Transition to final approach" procedures can be expected during peak traffic periods by ATC. In low traffic periods or in nighttime operations shortcuts or direct to IAF of T-bar base final approaches may be expected.

**2.4.** To eliminate additional radio communication to clarify the navigational capability of aircraft, the phrase “UNABLE RNAV DUE EQUIPMENT” shall be included by the pilot immediately following the aircraft call sign, whenever initial contact on the Budapest Approach frequency is established.

**2.5.** "RNAV arrival - Transition to final approach" procedures start at the TMA entry points and ending at the IAF of straight-in T-bar based final approach. Each initial RNAV T-bar sections and RNAV missed approach procedure conforms to the conventional precision approach procedure (ILS).

In addition, optional waypoints have been defined along the procedure path (i.e. on downwind, on final) that can be used by the controllers instead of radar vectors. These waypoints are available in the navigation database of the aircraft.

**2.6.** By utilising these procedures, reductions in radiotelephony communication, as well as optimised flight guidance in the approach section, based on realistic flight path data are possible. The turn to final approach is usually performed by T-bar based procedure or by giving the appropriate waypoint to be followed to expedite traffic handling and for separation reasons.

**2.7.** "RNAV arrival - Transition to final approach" and/or T-bar based instrument procedures are available from each TMA entry point to each applicable runway.

**2.8.** "RNAV arrival - Transition to final approach" procedures will be used by ATC only in a radar environment.

**2.9.** Executive control of traffic en route and in Budapest TMA is exercised by radar controllers. For operational use of radar, *See ENR 1.6*

**2.10.** Arriving aircraft experiencing radio communication failure shall set the transponder to code 7600 and:

A. During a "RNAV arrival - transition to final approach" procedure shall continue via the acknowledged full procedure with the relevant constraints, then complete the final approach for the runway in use.

B. During a "direct to an intermediate RNAV arrival waypoint" procedure shall:

- "continue via the acknowledged waypoint pairs with the relevant constraints, or
- "proceed to the single acknowledged waypoint and join to the remaining RNAV arrival procedure with the relevant constraints, then complete the final approach for the runway in use."

C. During a "direct to an IAS/IF of T-bar based instrument procedure" shall continue via the acknowledged procedure with the relevant constraints, then complete the final approach for the runway in use.

D. Prior to entering the Budapest TMA shall proceed to the TMA entry point according to the flight plan and continue via the "RNAV arrival - transition to final approach" procedure with the relevant constraints, then complete the final approach for the runway in use.

E. Without RNAV capability, prior to entering the Budapest TMA or under radar vectoring shall proceed to TPS VOR/DME and follow the standard VOR approach procedure then complete the final approach for the runway in use.

## 3. INSTRUMENT APPROACH PROCEDURES FOR BUDAPEST LISZT FERENC INTERNATIONAL AIRPORT

### 3.1 ILS operations

Note: A change in operational status, if caused by a failure expected to last more than one hour, will be promulgated by NOTAM and accordingly by ATIS. Pilots will be notified of shorter term deficiencies by ATC (ATIS and/or radiotelephony).

#### 3.1.1 Facilities

Information about the facilities serving ILS operations are published in *AD 2-LHBP AD-2.19*

#### 3.1.2 ILS CAT III performance

The ILS localiser for runway 31R and 13R provides full roll-out guidance on for the total length of the runway.

### 3.2 ATC Procedures for Low Visibility Conditions

#### 3.2.1 Preparation Phase PREP

When RVR is 800 M or less and/or the cloud base is at 400 FT or below, ATC will apply safeguards and additional procedures to protect ILS operations in addition, it will minimise the traffic on the manoeuvring areas. ATC will provide for an ILS/LOC interception at least 7 NM from touchdown and will operate the stopbars at all RWY holding points. In such circumstances, taxiing aircraft may continue taxiing beyond the holding point of the runway in use, only after the stopbar lights are switched off, and with a specific clearance by ATC. Furthermore without special request ATC will operate the flashing centrelights of the approach lighting system, which will be switched off on the request of the aircrew only.

#### 3.2.2 Operation Phase, LVP 1.

**3.2.2.1** When any RVR is 600 M or less and/or the cloud base is at 200 FT or below, in addition to 3.2.1 above, ATC will ensure that the ILS protection area (critical/sensitive) is clear of non-traffic before the landing aircraft reaches 2 NM from the TDZ. Aircraft will be vectored to intercept the ILS/LOC at least 10 NM from the point of touchdown.

**3.2.2.2** When any RVR is 400 M or more, the responsibility for avoiding collision on the manoeuvring area is shared between aircraft crew and ATC. ATC is responsible for the delivery of safe taxi instructions, determination of priority at taxiway intersections and the provision of correct traffic information. The aircraft crew is responsible for the proper execution of the given taxi instructions and for avoiding a collision with other traffic on taxiways and at intersections, by visual reference. Aircraft will be advised of these procedures in an ATIS broadcast with the following expression:

"ATTENTION! LOW VISIBILITY PROCEDURES PHASE ONE ARE IN FORCE"

**3.2.3 Operation Phase, LVP2.**

When any RVR is less than 400 M, in addition to 3.2.2.1 above, the ATC is responsible for preventing collisions between aircraft and other traffic on taxiways and intersections on the manoeuvring area. Aircraft will be advised of these procedures in an ATIS broadcast with the following expression:
"ATTENTION LOW VISIBILITY PROCEDURES PHASE TWO ARE IN FORCE"

**3.2.4 General procedures**

**3.2.4.1** The above procedures are applied irrespective of the actual category of operations flown, which is a pilot decision. During the approach, pilots will be informed of:

- failure and/or downgrading of aids or facilities serving CAT II or III operations;
- significant changes in surface wind (speed and direction);
- changes in RVR.

Note: Operators shall consider that the slope of runway 31R and the TWR building means that obstacles iare present in the case of a missed approach procedure, as a result a 3% climb gradient shall be used, which is more than the recommended 2.5% in PANS-OPS.

(*See AD 2-LHBP AD-2.10*; Aerodrome Obstacle Chart AD 2-LHBP-AOCA-13L/31R and AD 2-LHBP-ILS /LOC-31R).

**3.2.4.2** The movement of aircraft and vehicles on the manoeuvring area will be monitored by ATC (ASMGCS) to avoid inadvertent runway entry and possible conflicts on taxiways.

**3.2.4.3** In case of ASMGCS and/or stopbar failure, additional restrictions will be applied for the safety of the aircraft moving on the manoeuvring area (e.g. start-up restriction; total prohibition of the vehicle movement; etc.).

**3.3 Practice ILS approaches**

Pilots who wish to practice CAT II or III approaches are requested to use the phrase:

"Request practice category II (or III) approach"

on initial contact with Budapest Approach. Practice ILS approaches will be allowed only when traffic conditions permit. Pilots will be informed if the requested approach may be carried out.

**3.4 Precision Approach Terrain Charts**

Precision Approach Terrain Charts are published as AD 2-LHBP-PATC.

**3.5 Obstacle clearance**

OCA/H are published on the relevant IACs.

**3.6 Instrument approaches**

The IAPs are published on IACs listed in LHBP AD 2.24.

**3.7 Visual Approach**

A visual approach will only be allowed for "Light" prop/turboprop aircraft if the visibility is at least 5 KM and the ceiling is at least 1 500 FT (450 M).

**3.8 Aerodrome Operating minima**

**3.8.1** The OCA(H) values are promulgated on the Instrument Approach Chart for each kind of approach procedure available for those categories of aircraft for which the procedure is designated. At Budapest Liszt Ferenc International Airport, State weather minima are not applied.

**3.8.2** It is assumed that an operator will establish aerodrome operating minima for his use for each kind of IAP available. Such minima MDA(OH) shall not be lower than the appropriate OCA(H) value.

**3.9 Initiation of an approach to land**

It is assumed that an operator will formulate rules for the operations personnel concerned, regarding the initiation of an instrument approach depending on the weather conditions.

As a general rule: it is the right of the pilot-in-command to initiate an approach to land - if not otherwise regulated by the operator regardless of the weather report, as long as the aircraft does not descend below the decision altitude (height) or the minimum descent altitude MDA/(decision height DH) as may be prescribed by the operator, unless at that point the pilot-in-command finds that the actual visibility is at or above his/her applicable operating minimum and the approach can be completed by visual reference to the ground (visual approach aids) accordingly.

## 4. DEPARTURE PROCEDURES

### 4.1 General

**4.1.1** Flights departing from Budapest Liszt Ferenc International Airport, shall request en route clearance before start-up from Budapest Delivery TWR. *See LHBP AD 2.20 LOCAL AERODROME REGULATIONS*

**4.1.2** Budapest Delivery will clear the flight on a SID published for IFR flights when item 15 of the flight plan contains a standard TMA exit point. If necessary, Budapest Delivery will determine individual outbound routes.

*Note 1: The SID procedures comprise the noise abatement procedures and clearance for climbing up to 7 000 FT altitude, when the requested cruising altitude given in the flight plan equal to 7 000 FT QNH or higher.*

*Note 2: Airspace restrictions in force are broadcast by* ATIS.

### 4.2 Standard Instrument Departures

**4.2.1** The instrument departure procedures are published on SID Charts listed in Part AD LHBP 2.24.

**4.2.2** The required net climb gradient is 5.5%,up to 10 000 FT QNH.

Pilots who are unable to comply with the assigned climb gradient shall inform ATC .

**4.2.3** When following SID, the highest speed below FL100 is 250 KIAS.

**4.2.4** Pilots are invited to execute a rolling take-off whenever possible and to avoid the significant increase of engine power while standing in the line-up position.

**4.2.5** Pilots who are unable to comply with RNAV1 navigation specification shall inform ATC.

## 5. PROCEDURES FOR VFR FLIGHTS WITHIN BUDAPEST TMA AND IN BUDAPEST CTR

### 5.1 General

All VFR flights flying 120 KIAS or less shall plan their flights below Budapest TMA and plan their entry/exit to/from Budapest CTR via designated entry/exit points (*See 5.2.1*) below 2 000 FT AMSL (expect 1 500 FT AMSL).

All VFR flights flying more than 120 KIAS shall plan their arrivals via Budapest TMA (cruising altitude 2 500 FT AMSL or above).

ATC clearance for VFR flights within Budapest TMA and in Budapest CTR will be given on the following conditions:

a. Valid flight plan has been filed;

b. VMC are adequate (visibility 5 KM or more, ceiling 1 500 FT or more) and there is vertical visual reference to the ground;

c. Two-way radio communication is possible. Information about the appropriate frequency may be obtained from Budapest Information;

d. The flight is not being driven by non power-driven aircraft;

e. The aircraft is equipped with transponder mode C, in case of landing at Budapest Liszt Ferenc Airport mode S. Exemption from this requirement may be granted by the appropriate ATC unit.

### 5.2 VFR procedures at Budapest Liszt Ferenc International Airport and within Budapest CTR (See VAC)

**5.2.1** Designated VFR entry and exit points for flights with 120 KIAS or less to/from Budapest CTR:

**PAKON**: 472154N 0191116E

(Large warehouse 1 NM NW of M5 and M0 highway junction.)

**SOROK**: 472414N 0190627E

(Middle of Molnár Isle, next to Soroksár.)

**KEREPES**:473314N 0191619E

(Commuter train station KEREPES – it is where the railway track divides from the highway.)

**TAPIO**:472936N 0192646E (TPS VOR)

For flights operating in the NW part of the CTR, outside the final approach area, the following points are designated for entry/exit:

**TSEPEL**:472740N 0190419E

(Csepel bridge – The N end of Csepel island)

**MIKLOS**:473244N 0190239E

(Miklós square in Óbuda)

**SIKATOR**:473426N 0190929E

(Sikátorpuszta – at the crossing of motorway M3 and motor-road 2/B.)

Departing VFR flights from Budapest Liszt Ferenc International Airport - except special flights - shall plan via PAKON, KEREP, TAPIO or SOROK exit points only.

Arriving VFR flights to Budapest Liszt Ferenc International Airport, except special flights, shall plan via PAKON or SOROK entry points only.

**5.2.2 Arriving aircraft**

VFR flights approaching from controlled airspace are positioned to final approach by Budapest Approach.

- VFR flights approaching from uncontrolled airspace shall enter over PAKON, and SOROK points unless otherwise instructed by Budapest Tower. Arrival routes are determined by ATC depending on the current runway in use at Budapest Liszt Ferenc International Airport, as follows:In case of direction 31: PAKON - MIKE - RWY 31L landing or PAKON - LAKE - R - RWY 31R landing (see VAC)
- In case of direction 13: SOROK - ALPHA - RWY 13R landing or SOROK ALPHA - BUD - RWY 13L landing (see VAC)

**Arrival routes turning points:**

- MIKE: 472526N 0191539E (NDB antenna 0.6 NM SE from threshold 31L)
- ALPHA: 472718N 0191238E (NDB antenna 0.6 NM NW from threshold 13R)
- BUD (VOR antenna 0.5 NM NW from THR 13L)
- R (NDB antenna 0.6 NM SE from THR 31R)

VFR holding fixes have to be used only when instructed by ATC:

- HIGHWAY (highway junction 472532N 0190905E)
- LAKE (artificial lake at excavation site 472349N 0191338E)

Holding procedure has to be carried out as instructed by ATC. Maximum holding altitude: 1 500 FT QNH.

Aeroplanes and helicopters may land on the runways. The designated helicopter landing area is located SW of RWY 13R/31L between taxiways A1 and B1. The landing area will be designated by the Budapest Tower on initial contact.

Entry into the final approach area designated within Budapest CTR (see VAC), is only allowed for aircraft only landing at Budapest Liszt Ferenc International Airport or executing special operations.

The vertical limits of the final approach area are from the ground up to 2 000 FT (600 M) AMSL and laterally bound by straight lines connecting the following coordinates:

473358 N 0191018 E - 472918 N 0191418 E

472528 N 0192012 E - 472204 N 0193042 E

471620 N 0192300 E - 472336 N 0191600 E

472624 N 0191145 E - 472941 N 0190336 E

473358 N 0191018 E

### 5.2.3 Departing aircraft

Fix-wing aircraft shall take-off from runways only. Helicopters shall take-off from the position provided by Budapest Tower.

Departing aircraft have to follow the procedures contained in the en route clearance given before take-off clearance.

### 5.2.4 Taxiing

Taxiing shall be carried out as instructed by Budapest Ground and on the apron, as guided by the Marshaller.

### 5.2.5 Communication failure procedures

- Arriving aircraft: Proceed as cleared. If no landing clearance has been received, turn back and hold over the designated entry point for 5 minutes and then make landing on the designated landing area. VACATE THE RUNWAY and on taxiway hold position and wait for the Marshaller.
- Departing aircraft: DO NOT TAKE OFF - KEEP THE RUNWAY CLEAR and on the taxiway, hold position and wait for the Marshaller.

## 6. WAYPOINT COORDINATES

| Way-point | Coordinates | Definitions |
|---|---|---|
| BEREV | 472414.9N 0193021.2E | |
| DIVOX | 472206.5N 0193557.5E | |
| GIGAN | 474117.3N 0190458.0E | |
| KESID | 473147.2N 0185210.0E | |
| MAMOS | 474715.8N 0190401.4E | |
| MOKSA | 474204.1N 0183758.3E | |
| NARUT | 474052.8N 0185224.1E | |
| ODVAS | 471615.0N 0191934.7E | |
| OMIGI | 472938.0N 0195341.0E | |
| RESDI | 471238.0N 0192311.1E | |
| SOMOK | 473722.2N 0183431.8E | |
| TURMU | 471300.0N 0193537.3E | |
| VAGAT | 471338.1N 0193628.7E | |
| VATOR | 474015.8N 0185135.1E | |
| BP004 | 472303.3N 0191929.6E | |
| BP005 | 472452.2N 0190322.1E | |
| BP006 | 471837.5N 0191332.8E | |
| BP007 | 472444.4N 0191646.5E | |
| BP009 | 473212.4N 0190440.2E | |
| BP010 | 473613.8N 0185809.0E | |
| BP017 | 472218.6N 0192234.5E | |
| BP019 | 473154.7N 0190702.8E | |
| BP020 | 473651.5N 0185859.1E | |
| BP021 | 474033.0N 0190358.1E | |
| BP022 | 474433.2N 0185725.9E | |
| BP029 | 472104.1N 0192434.4E | |
| BP030 | 471741.5N 0192959.5E | |
| BP031 | 472122.3N 0193457.8E | |
| BP032 | 471718.6N 0194127.0E | |
| BP050 | 471958.2N 0191337.1E | |
| BP056 | 472252.0N 0190641.0E | |
| BP057 | 472856.5N 0190958.6E | |
| BP059 | 472135.4N 0192151.1E | |
| BP060 | 471703.4N 0192908.0E | |
| BP061 | 471322.3N 0192410.5E | |
| BP062 | 470919.2N 0193039.7E | |
| BP328 | 471918.7N 0192341.6E | |
| BP329 | 472149.1N 0192704.2E | |
| BP331 | 472233.1N 0192211.2E | |
| BP416 | 474409.7N 0184505.9E | |
| BP417 | 474030.3N 0184003.1E | |
| BP418 | 473629.4N 0184639.4E | |
| BP419 | 473228.2N 0185314.7E | |
| BP420 | 472826.6N 0185949.1E | |
| BP421 | 472447.2N 0185447.8E | |
| BP422 | 472848.8N 0184813.1E | |
| BP423 | 473250.0N 0184137.4E | |
| BP429 | 470908.2N 0194146.4E | |
| BP430 | 470528.9N 0193647.2E | |
| BP439 | 472453.1N 0190545.5E | |
| BP440 | 473106.1N 0185545.7E | |
| BP511 | 474447.6N 0184558.3E | |
| BP512 | 474827.7N 0185103.1E | |
| BP520 | 473533.5N 0191205.7E | |
| BP521 | 473912.7N 0191708.3E | |
| BP523 | 475129.1N 0185717.4E | |
| BP524 | 474414.3N 0190857.8E | |
| BP525 | 473219.8N 0192646.8E | |
| BP534 | 470946.0N 0194238.1E | |
| BP535 | 471325.2N 0194738.3E | |
| BP539 | 473314.9N 0193148.5E | |
| BP540 | 473905.5N 0191139.8E | |
| BP609 | 472347.2N 0184554.1E | |
| BP610 | 472213.6N 0185449.4E | |
| BP612 | 471249.6N 0185334.3E | |
| BP613 | 472158.6N 0192115.0E | |
| BP629 | 474553.9N 0192006.9E | |
| BP636 | 473912.3N 0185728.0E | |
| BP637 | 474716.6N 0185422.1E | |
| BP639 | 480156.0N 0192908.8E | |
| BP640 | 472842.7N 0191020.8E | |
| BP641 | 473930.8N 0191624.1E | |
| BP643 | 472011.1N 0185918.5E | |
| BP644 | 471208.0N 0184827.7E | |
| BP714 | 472317.9N 0192303.8E | |
| BP715 | 473635.3N 0193540.1E | |
| BP716 | 474413.1N 0193454.5E | |

| Way-point | Coordinates | Definitions |
|---|---|---|
| BP717 | 480054.6N 0193313.0E | |
| BP718 | 474529.4N 0192117.3E | |
| BP719 | 475620.4N 0190401.9E | |
| RW13L | 472643.5N 0191527.2E | |
| RW13R | 472655.3N 0191314.7E | |
| RW31L | 472549.7N 0191500.9E | |
| RW31R | 472522.6N 0191737.9E | |

## LHBP AD 2.23 ADDITIONAL INFORMATION

### 1. GROUND HANDLING ORGANISATIONS

Organisation(s) dealing with the ground handling of passengers, freight and mail, as well as providing apron service. Their work shall be carried out on the area designated to them in accordance with the permission of the airport operator. Their services shall be ordered by aircraft operators. The permit for carrying out special activities, issued by the operator of the airport, is not a substitute for the required permits issued by the responsible authorities.

Regarding capacity, for the best use of the equipment available at the airport, the conditions and manner of use of the runways and aprons, as well as airport buildings, shall be determined by the operator of the airport, the Budapest Airport Zrt. in accordance with to the relevant rules of law and considering the regulations of economic efficiency and environmental protection.

The above as well as para (2) point c) of Government Decree No. 141/1995. (XI.30.) 21. §, regulate the order of ground handling, according to the following.

Ground handling organisations operate at Budapest Liszt Ferenc International Airport:

- Malév GH [pax/cargo]

  Email:malevdhm@magh.hu

  Phone:(+36) 20-454-6057
- General Aviation of Malév GH

  Email:gat@magh.hu

  Phone:(+36) 20-454-6057

  AFS:LHBPMAHX
- Celebi GH [pax/cargo]

  Email:dhm@celebiaviation.hu

  Phone:(+36) 30-202-9048
- General Aviation of Celebi GH

  Email:gat@celebiaviation.hu

  Phone:(+36) 70-332-4044

  Phone:(+361) 296-6292
- Farnair GH [cargo]

  Email:vle@farnair.hu

  Phone:(+36) 30-278-0761
- Menzies Aviation [pax]

  Email:tibor.fazekas@menziesaviation.com

  Phone:(+36) 20-220-3266
- BUDPORT Handling Ltd. [pax/ramp]

  Email:dhm@budport.com

  Phone:(+36) 30-790-3006
- General aviation of BUDPORT Handling Ltd.

  Email:gat@budport.com

  Phone:(+36) 30-790-3006

## 2. SUPERVISION OF THE AERODROME

The movement areas at Budapest Liszt Ferenc International Airport are checked on a regular basis by the duty airside manager. The duty airside manager will advise the ATS units concerned about the prevailing conditions of the runways and other parts of the movement area.

Runway state information and other related information of direct operational significance will be distributed to operators and services concerned either by NOTAM or SNOWTAM as appropriate.

Information on aerodrome conditions (including weather conditions) and limitations of available services and/or facilities will also be announced in ATIS broadcasts.

## 3. AUTOMATIC TERMINAL INFORMATION SERVICE (ATIS) BROADCASTS

| Station | Call sign/Identification | Channel | Operational Hours | Remark |
|---|---|---|---|---|
| Budapest | BUDAPEST TERMINAL INFORMATION | 132.380 CH | H24 | |
| | | 117.300 MHZ | H24 | BUD TVOR |

### 3.1 The content of ATIS broadcasts:

1. Name of aerodrome
2. Designator
3. Time of observation
4. Type of approach to be expected and runway(s) in use
5. Significant runway surface conditions and, if appropriate, braking action; conditions of other movement areas
6. Expected delay, if appropriate
7. Transition level
8. Other essential operational information
9. Meteorological report
10. ATFM information

Pilots of arriving and departing aircraft are requested to report receipt of ATIS broadcast by reading back the relevant designator of information and QNH on initial contact with Budapest Approach or Budapest Ground respectively.

*Notes:*

- One broadcast serves both arriving and departing aircraft.
- Runway braking action is reported with friction coefficient, or estimated braking action if friction coefficient is not available. It is transmitted for each third of the runway in use commencing from the threshold. Sections of the runway are identified as first part, second part, and third part.
- RVR values are transmitted in the following order: TDZ, mid point and stop end. When RVRs for all the three positions are available, the positions are not identified.
- Pilots of 8.33 KHZ exempted aircraft are requested to receive ATIS broadcast via the audio channel of BUD VOR on 117.300 MHZ

## 4. BIRD FLOCKS AND BIRD MIGRATIONS

The size of flocks of birds living at or near Budapest Liszt Ferenc International Airport varies with seasons.

Domestic pigeons bred at settlements in the vicinity of the airport represent a constant and growing threat. Appearance of a flock comprising 50 to 100 individuals can be expected from every direction between 30 and 100 FT.

About 40 to 60 birds of prey live within the area or in the immediate vicinity of the airport. Birds of prey are a hazard to aircraft in the initial climb or final approach phase of flight.

Danger of collision somewhat increases in JUN-AUG when the new generation leave their nests.

Bird migrations occur, depending on weather conditions, in FEB-MAR and in SEP-OCT. In these months flocks of several thousand, relatively small birds will migrate through the airspace at varying altitudes.

Between NOV and FEB gulls also appear at the airport, usually preferring to settle on runways and taxiways.

Particular mention must be made of black and grey crows. Between OCT and MAR, also depending on weather conditions, they migrate through the airspace of the airport in flocks of several tens of thousands and sometimes of several hundred thousands, and settle temporarily on the airfield.

Their migration shows a distinct daily pattern: after dawn they fly from NW to SE, and at dusk from SE to NW, between 30 and 1 000 FT.

### 4.1 Bird Watch and Scaring Service

The Budapest Airport Zrt. operates a continuous bird watch and scaring service, with appropriate equipment.

Operators using Budapest Liszt Ferenc International Airport are requested to send their comments relating to the operation of this service to the following address:

Airside Management

BUD International Airport Zrt.

Post:H-1185 Budapest, BUD International Airport

Phone:(+361) 296-5535

Fax:(+361) 296-8981

Email:airside.bud@bud.hu

### 4.2 Reporting a Bird Strike

Operators using Budapest Liszt Ferenc International Airport are requested to report events of bird strike by filling in the ICAO standard “BIRD STRIKE REPORTING FORM” (BSRF). The form can be obtained and filed at the ARO.

If the event occurs after take-off and the crew do not consider it necessary to interrupt their flight, then they should notify the TWR via radio, then fill in the BSRF at their destination airport and send it to the following address:

Airside Management

BUD International Airport Zrt.

Post:H-1185 Budapest, BUD International Airport

Fax:(+361) 296-8981

Email:airside.bud@bud.hu

## 5. GENERAL AVIATION FLIGHT HANDLING

An operator or a handling agent authorized by the operator must advise its operation as a minimum three hours before the planned arrival or departure time. Requests shall be submitted to the Airport Operations Control Center by:

Email:airport.ops@bud.hu

Operation request shall comprise the following information:

- date of flight;
- aircraft identification and type of aircraft;
- type of flight;
- estimated time of arrival and/or departure;
- aerodrome of departure and destination;
- aircraft registration;
- name of the handling agent;
- MTOW and noise data of the aircraft;
- name of the operator.

The airport operator will confirm the times to the sender.

## LHBP AD 2.24 CHARTS RELATED TO THE AERODROME

| | |
|---|---|
| Aerodrome Chart - ICAO | AD 2-LHBP-ADC |
| Appendix 1 to Aerodrome Chart - ICAO<br>Taxi procedures for arriving aircraft (Parallel RWY operation) | AD 2-LHBP-MISC-ARR |
| Appendix 2 to Aerodrome Chart - ICAO<br>Taxi procedures for departing aircraft (Parallel RWY operation) | AD 2-LHBP-MISC-DEP |
| Aircraft Parking/Docking Chart - ICAO | AD 2-LHBP-PDC-1 |
| | AD 2-LHBP-PDC-2 |
| | AD 2-LHBP-PDC-3 |
| Aerodrome Obstacle Chart - ICAO Type A Operating Limitations | AD 2-LHBP-AOCA-13R31L |
| | AD 2-LHBP-AOCA-13L31R |
| Precision Approach Terrain Chart - ICAO | AD 2-LHBP-PATC-13R/31L |
| | AD 2-LHBP-PATC-13L/31R |
| Standard Departure Chart - Instrument (SID) - ICAO | AD 2-LHBP-SID-31L |
| | AD 2-LHBP-SID-13R |
| | AD 2-LHBP-SID-13L |
| | AD 2-LHBP-SID-31R |
| GPS/FMS RNAV Arrival Chart - Transition to Final Approach | AD 2-LHBP-ARR-13L |
| | AD 2-LHBP-ARR-13R |
| | AD 2-LHBP-ARR-31L |
| | AD 2-LHBP-ARR-31R |

| | |
|---|---|
| Instrument Approach Chart - ICAO | AD 2-LHBP-ILS/LOC-13L |
| | AD 2-LHBP-VOR-13L |
| | AD 2-LHBP-RNAV-13L |
| | AD 2-LHBP-ILS/LOC-13R |
| | AD 2-LHBP-RNAV-13R |
| | AD 2-LHBP-ILS/LOC-31L |
| | AD 2-LHBP-RNAV-31L |
| | AD 2-LHBP-ILS/LOC-31R |
| | AD 2-LHBP-VOR-31R |
| | AD 2-LHBP-RNAV-Y-31R |
| | AD 2-LHBP-RNAV-Z-31R |
| Visual Approach Chart - ICAO | AD 2-LHBP-VAC |

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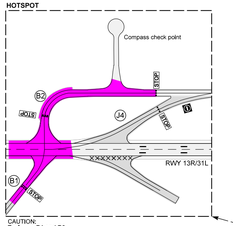
AERODROME ELEV 496

| | | | | | |
|---|---|---|---|---|---|
| BUDAPEST APP | 122.975 | BUDAPEST TOWER | 118.100 | BUDAPEST APRON 1 | 131.555 |
| | 123.660 | BUDAPEST GROUND | 121.910 | BUDAPEST APRON 2 | 122.440 |
| | 119.510 | BUDAPEST DELIVERY | 134.540 | ATIS | 132.380 |
| BUDAPEST INFORMATION (NORTH) | | | 119.350 | ATIS (BUD VOR) | 117.300 |

## AERODROME CHART - ICAO

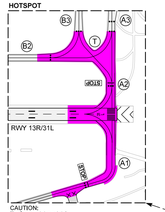
| RWY | DIRECTION | THR | BEARING STRENGTH | TORA | TODA | ASDA | LDA |
|---|---|---|---|---|---|---|---|
| 13R | 128° | N47 26 55, E019 13 15 | PCN 65/R/B/X/T | 3010 | 3010 | 3010 | 3010 |
| 31L | 308° | N47 25 50, E019 15 01 | PCN 65/R/B/X/T | 3010 | 3010 | 3010 | 3010 |
| 13L | 128° | N47 26 44, E019 15 27 | PCN 75/R/B/X/T | 3707 | 3707 | 3707 | 3707 |
| 31R | 308° | N47 25 23, E019 17 38 | PCN 75/R/B/X/T | 3707 | 3707 | 3707 | 3707 |
| Apron 1 | | | PCN 50/R/B/X/T | | | | |
| Apron 2, APRON AG, APRON AA, APRON AL | | | PCN 75/R/B/X/T | | | | |
| Taxiways: A1, B1, C, D | | | PCN 60/F/B/X/T | | | | |
| Taxiways: A2-A9, B2-B5, F, K, L, M, N, T, U, X, Y, Z | | | PCN 75/R/B/X/T | | | | |
| Taxiway: J4 | | | PCN 75/F/B/X/T | | | | |
| Taxiway width: 23 m, exception A1: 19 m. | | | | | | | |
| Remark: TWY A1 downgraded to code C ACFT (max. wingspan 36.00 m). | | | | | | | |

HOTSPOT



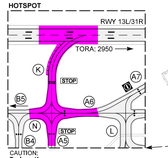

CAUTION:
**Taxiways B1 and B2.**
Do NOT cross the holding position markings without ATC clearance issued on TWR frequency (118.100 MHz).

HOTSPOT




CAUTION:
**Taxiways A1 and A2.**
Do NOT cross the holding position markings without ATC clearance issued on TWR frequency (118.100 MHz).

HOTSPOT

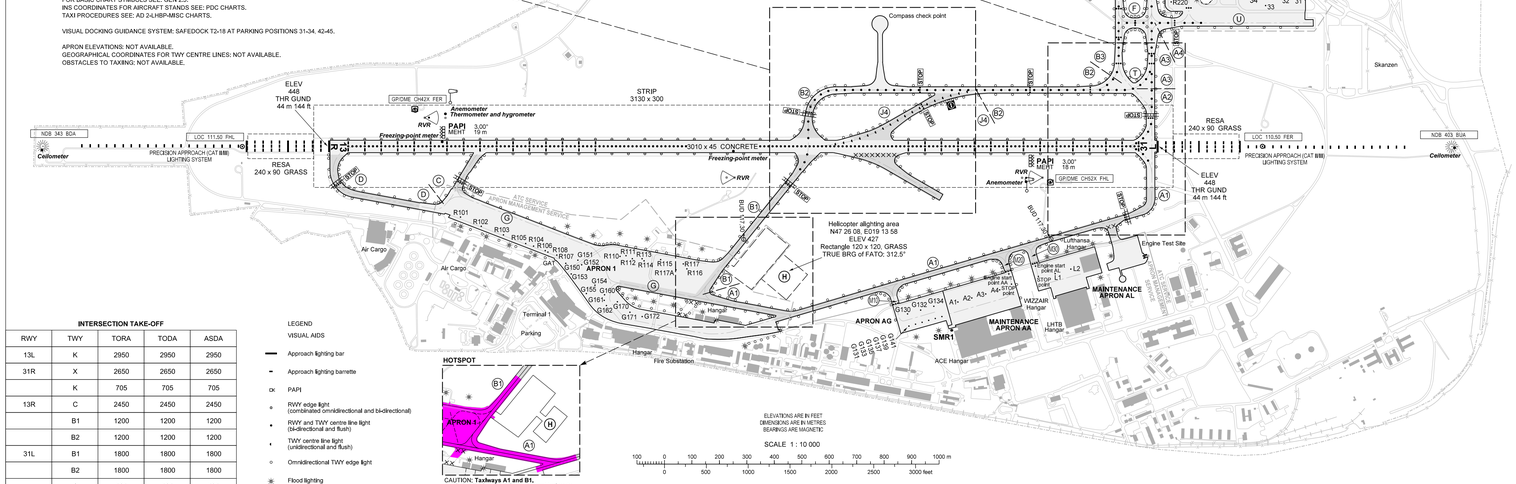



CAUTION:
**Taxiway K.**
Verify the correct taxi route before entering the Taxiway.

FOR BASIC CHART SYMBOLS SEE: GEN 2.3.
INS COORDINATES FOR AIRCRAFT STANDS SEE: PDC CHARTS.
TAXI PROCEDURES SEE: AD 2-LHBP-MISC CHARTS.

VISUAL DOCKING GUIDANCE SYSTEM: SAFEDOCK T2-18 AT PARKING POSITIONS 31-34, 42-45.

APRON ELEVATIONS: NOT AVAILABLE.
GEOGRAPHICAL COORDINATES FOR TWY CENTRE LINES: NOT AVAILABLE.
OBSTACLES TO TAXIING: NOT AVAILABLE.




HOTSPOT




CAUTION: **Taxiways A1 and B1.**
Confusing Taxiways. Verify the correct taxi route.

**INTERSECTION TAKE-OFF**

| RWY | TWY | TORA | TODA | ASDA |
|---|---|---|---|---|
| 13L | K | 2950 | 2950 | 2950 |
| 31R | X | 2650 | 2650 | 2650 |
| | K | 705 | 705 | 705 |
| 13R | C | 2450 | 2450 | 2450 |
| | B1 | 1200 | 1200 | 1200 |
| | B2 | 1200 | 1200 | 1200 |
| 31L | B1 | 1800 | 1800 | 1800 |
| | B2 | 1800 | 1800 | 1800 |
| | C | 505 | 505 | 505 |

LEGEND

VISUAL AIDS

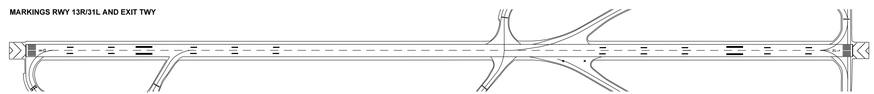
- Approach lighting bar
- Approach lighting barrette
- or PAPI
- RWY edge light (combinated omnidirectional and bi-directional)
- RWY and TWY centre line light (bi-directional and flush)
- TWY centre line light (unidirectional and flush)
- Omnidirectional TWY edge light
- Flood lighting

ELEVATIONS ARE IN FEET
DIMENSIONS ARE IN METRES
BEARINGS ARE MAGNETIC

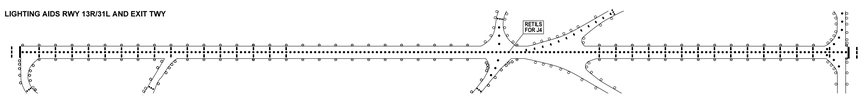
SCALE 1 : 10 000

100 0 100 200 300 400 500 600 700 800 900 1000 m
0 500 1000 1500 2000 2500 3000 feet

**MARKINGS RWY 13R/31L AND EXIT TWY**

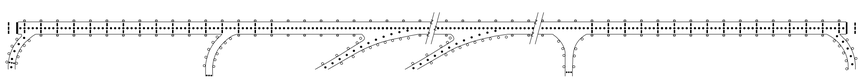


**LIGHTING AIDS RWY 13R/31L AND EXIT TWY**




**MARKINGS RWY 13L/31R AND EXIT TWY**

**LIGHTING AIDS RWY 13L/31R AND EXIT TWY**



**LIGHTING**

**RWY 13L/31R and RWY 13R/31L**

**Approach:** Cat. II/III. High intensity white unidirectional (900 m), variable in 5 stages. From 900 m to 300 m flashing centre line.
**Thresholds:** Low intensity green unidirectional, variable in 5 stages, with 2x10 m wing bar lights.
**Touchdown zone:** High intensity white unidirectional, variable in 5 stages.
**PAPI** 3,00° (MEHT: see in chart).
**Runway edge:** High intensity white unidirectional, variable in 5 stages, Last 600 m yellow. Low intensity white omnidirectional, variable in 5 stages, First and last 600 m yellow. Edge light spacing: 60 m.
**Runway centre line:** High intensity unidirectional, variable in 5 stages, White to 900 m before runway end, Red/white from 900 m to 300 m before runway end, Red on the last 300 m of runway. Center line light spacing: 15 m.
**Runway ends:** Low intensity red unidirectional.

**TWY**

**Taxiway edge:** Low intensity omnidirectional blue.
**Taxiway centre line:** Low Intensity unidirectional green on taxiways Z, Y and J4. Low Intensity bi-directional green on taxiways A2-A9, F, B2-B5, N, T, and U.
**STOP bars:** Unidirectional red.
**Apron:** Low intensity red edge lights and floodlights.
**Obstacle light:** Low intensity red.

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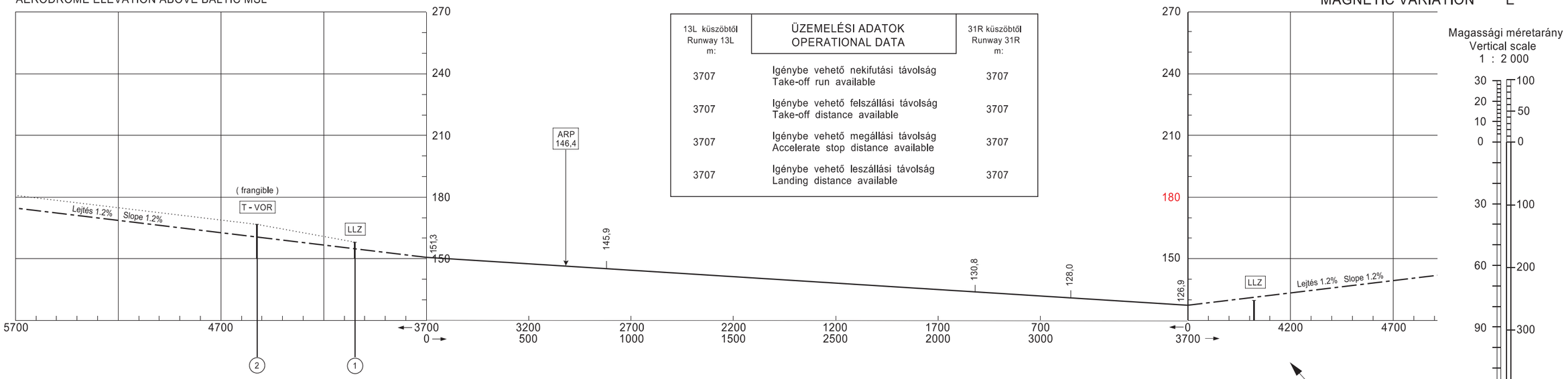
# AERODROME OBSTACLE CHART - ICAO
TYPE A (OPERATING LIMITATIONS)

# BUDAPEST/LISZT FERENC
RWY 13L/31R

REPÜLŐTÉR MAGASSÁGA BALTI TENGERSZINT FELETT
AERODROME ELEVATION ABOVE BALTIC MSL *496*' 151 m

MÁGNESES ELHAJLÁS
MAGNETIC VARIATION 4° K E (2009)




| 13L küszöbtől Runway 13L m: | ÜZEMELÉSI ADATOK OPERATIONAL DATA | 31R küszöbtől Runway 31R m: |
|---|---|---|
| 3707 | Igénybe vehető nekifutási távolság Take-off run available | 3707 |
| 3707 | Igénybe vehető felszállási távolság Take-off distance available | 3707 |
| 3707 | Igénybe vehető megállási távolság Accelerate stop distance available | 3707 |
| 3707 | Igénybe vehető leszállási távolság Landing distance available | 3707 |

1 : 20 000
Vízszintes méretarány
Horizontal scale

500 0 500 1000 1500 Méter metres
1500 1000 500 0 1000 2000 3000 4000 5000 Láb feet

VÍZSZINTES ÉS MAGASSÁGI ADATOK MÉTERBEN
DIMENSIONS AND ELEVATIONS IN METERS

Felmérés ideje:
Date of survey: AUGUST 1982

Helyesbítette: UVATERV 108. sz. GEODÉZIAI OSZTÁLYA 1987-ben
Corrected by: CONSULTING AND ENGINEERING FOR COMMUNICATION AND TRANSPORTATION in 1987

## JELMAGYARÁZAT
## LEGEND

| | |
|---|---|
| (1) | Hivatkozási szám<br>Identification number |
| ✳ | Fa, bokor<br>Tree, shrub |
| ◉ | Oszlop, torony, kémény, csúcs, antenna, stb.<br>Pole, tower, chimney, spire, antenna, etc. |
| \| | Akadályok oldalnézetben<br>Obstacles shown no profile |

VÁLTOZÁSOK AMENDMENT RECORD

| N o. | DÁTUM DATE | ÁTVETTE ENTERED BY |
|---|---|---|
| | | |

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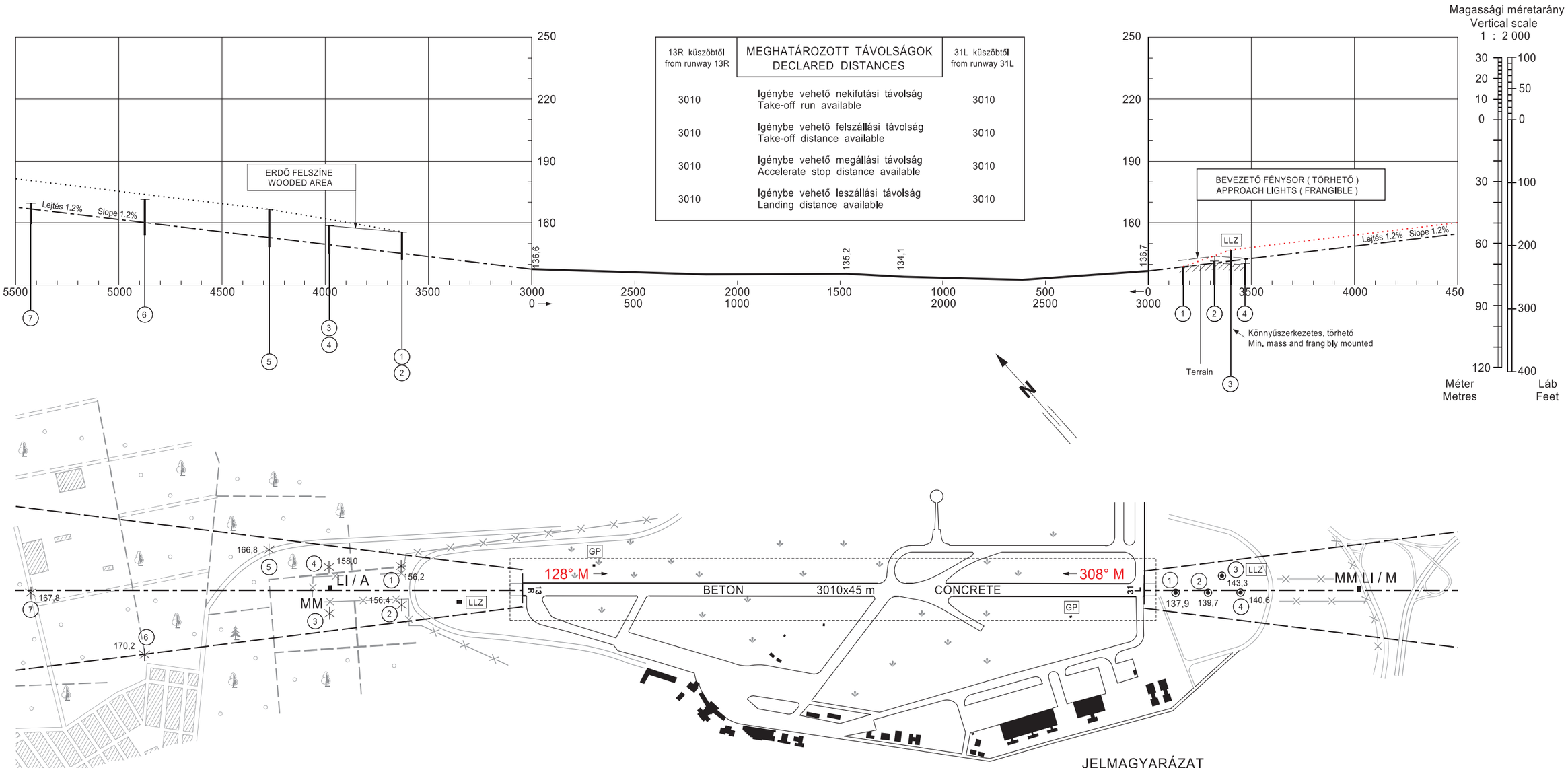
# AERODROME OBSTACLE CHART - ICAO
TYPE A OPERATING LIMITATIONS

# BUDAPEST/LISZT FERENC
RWY 13R/31L

REPÜLŐTÉR MAGASSÁGA BALTI TENGERSZINT FELETT
AERODROME ELEVATION ABOVE BALTIC MSL *496*' 151 m

MÁGNESES ELHAJLÁS
MAGNETIC VARIATION 4° K E (2009)




| 13R küszöbtől from runway 13R | MEGHATÁROZOTT TÁVOLSÁGOK DECLARED DISTANCES | 31L küszöbtől from runway 31L |
|---|---|---|
| 3010 | Igénybe vehető nekifutási távolság<br>Take-off run available | 3010 |
| 3010 | Igénybe vehető felszállási távolság<br>Take-off distance available | 3010 |
| 3010 | Igénybe vehető megállási távolság<br>Accelerate stop distance available | 3010 |
| 3010 | Igénybe vehető leszállási távolság<br>Landing distance available | 3010 |

1 : 20 000
Vízszintes méretarány
Horizontal scale

500 0 500 1000 1500 Méter metres
1500 1000 500 0 1000 2000 3000 4000 5000 Láb feet

VÍZSZINTES ÉS MAGASSÁGI ADATOK MÉTERBEN
DIMENSIONS AND ELEVATIONS IN METERS

Felmérés ideje:
Date of survey: AUGUST 1982

Helyesbítette: UVATERV 108. sz. GEODÉZIAI OSZTÁLYA 1987-ben
Corrected by: CONSULTING AND ENGINEERING FOR COMMUNICATION AND TRANSPORTATION in 1987

JELMAGYARÁZAT
LEGEND

| | |
|---|---|
| (1) | Hivatkozási szám<br>Identification number |
| ✳ | Fa, bokor<br>Tree, shrub |
| ◉ | Oszlop, torony, kémény, csúcs, antenna, stb.<br>Pole, tower, chimney, spire, antenna, etc. |
| I | Akadályok oldalnézetben<br>Obstacles shown no profile |

VÁLTOZÁSOK AMENDMENT RECORD

| N o. | DÁTUM DATE | ÁTVETTE ENTERED BY |
|---|---|---|
| | | |

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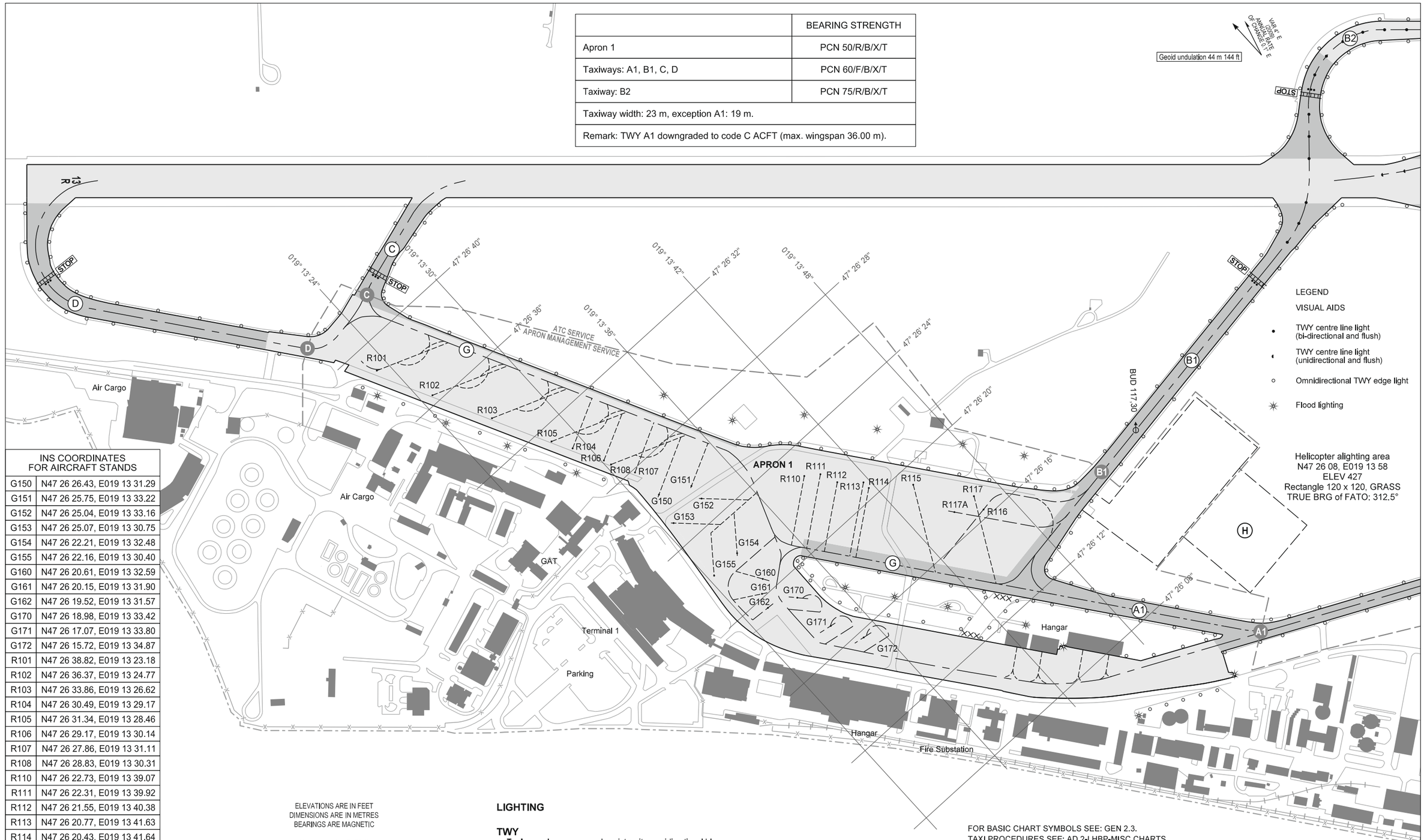
|---|---|---|---|---|---|
| BUDAPEST APP | 122.975 | BUDAPEST TOWER | 118.100 | BUDAPEST APRON 1 | 131.555 |
| | 123.860 | BUDAPEST GROUND | 121.910 | | |
| | 119.510 | BUDAPEST DELIVERY | 134.540 | ATIS | 132.380 |
| BUDAPEST INFORMATION (NORTH) | | | 119.350 | ATIS (BUD VOR) | 117.300 |

# BUDAPEST/LISZT FERENC
## APRON 1

## AIRCRAFT PARKING/DOCKING CHART - ICAO

| | BEARING STRENGTH |
|---|---|
| Apron 1 | PCN 50/R/B/X/T |
| Taxiways: A1, B1, C, D | PCN 60/F/B/X/T |
| Taxiway: B2 | PCN 75/R/B/X/T |
| Taxiway width: 23 m, exception A1: 19 m. | |
| Remark: TWY A1 downgraded to code C ACFT (max. wingspan 36.00 m). | |




| INS COORDINATES FOR AIRCRAFT STANDS | |
|---|---|
| G150 | N47 26 26.43, E019 13 31.29 |
| G151 | N47 26 25.75, E019 13 33.22 |
| G152 | N47 26 25.04, E019 13 33.16 |
| G153 | N47 26 25.07, E019 13 30.75 |
| G154 | N47 26 22.21, E019 13 32.48 |
| G155 | N47 26 22.16, E019 13 30.40 |
| G160 | N47 26 20.61, E019 13 32.59 |
| G161 | N47 26 20.15, E019 13 31.90 |
| G162 | N47 26 19.52, E019 13 31.57 |
| G170 | N47 26 18.98, E019 13 33.42 |
| G171 | N47 26 17.07, E019 13 33.80 |
| G172 | N47 26 15.72, E019 13 34.87 |
| R101 | N47 26 38.82, E019 13 23.18 |
| R102 | N47 26 36.37, E019 13 24.77 |
| R103 | N47 26 33.86, E019 13 26.62 |
| R104 | N47 26 30.49, E019 13 29.17 |
| R105 | N47 26 31.34, E019 13 28.46 |
| R106 | N47 26 29.17, E019 13 30.14 |
| R107 | N47 26 27.86, E019 13 31.11 |
| R108 | N47 26 28.83, E019 13 30.31 |
| R110 | N47 26 22.73, E019 13 39.07 |
| R111 | N47 26 22.31, E019 13 39.92 |
| R112 | N47 26 21.55, E019 13 40.38 |
| R113 | N47 26 20.77, E019 13 41.63 |
| R114 | N47 26 20.43, E019 13 41.64 |
| R115 | N47 26 19.22, E019 13 43.91 |
| R116 | N47 26 16.33, E019 13 46.20 |
| R117 | N47 26 17.05, E019 13 46.32 |
| R117A | N47 26 17.11, E019 13 44.69 |

ELEVATIONS ARE IN FEET
DIMENSIONS ARE IN METRES
BEARINGS ARE MAGNETIC

SCALE 1 : 5 000

50 0 50 100 150 200 250 m
0 250 500 750 feet

**LIGHTING**

**TWY**

**Taxiway edge:** Low intensity omnidirectional blue.
**Taxiway centre line:** Low intensity bi-directional green on taxiway B2.
**STOP bars:** Unidirectional red.
**Apron:** Low intensity red edge lights and floodlights.
**Obstacle light:** Low intensity red.

FOR BASIC CHART SYMBOLS SEE: GEN 2.3.
TAXI PROCEDURES SEE: AD 2-LHBP-MISC CHARTS.

APRON ELEVATION: NOT AVAILABLE.
GEOGRAPHICAL COORDINATES FOR TWY CENTRE LINES: NOT AVAILABLE.
OBSTACLES TO TAXIING: NOT AVAILABLE.

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|---|---|---|---|---|---|
| BUDAPEST APP | 122.975 | BUDAPEST TOWER | 118.100 | BUDAPEST APRON 2 | 122.440 |
| | 123.860 | BUDAPEST GROUND | 121.910 | | |
| | 119.510 | BUDAPEST DELIVERY | 134.540 | ATIS | 132.380 |
| BUDAPEST INFORMATION (NORTH) | | | 119.350 | ATIS (BUD VOR) | 117.300 |

# BUDAPEST/LISZT FERENC
## APRON 2

AIRCRAFT PARKING/DOCKING CHART - ICAO

| | BEARING STRENGTH |
|---|---|
| Apron 2 | PCN 75/R/B/X/T |
| Taxiways: A3-A9, B3-B5, F, K, L, M, N, T, U, X, Y, Z | PCN 75/R/B/X/T |
| Taxiway width: 23 m. | |

VAR 4° E (2009) ANNUAL RATE OF CHANGE 0° E

Geoid undulation 44 m 144 ft

**LIGHTING**

**TWY**

| | |
|---|---|
| Taxiway edge: | Low intensity omnidirectional blue. |
| Taxiway centre line: | Low intensity unidirectional green on taxiways Z, Y.<br>Low intensity bi-directional green on taxiways A3-A8, B3-B5, F, N, and U. |
| STOP bars: | Unidirectional red. |
| Apron: | Low intensity red edge lights and floodlights. |
| Obstacle light: | Low intensity red. |

| INS COORDINATES FOR AIRCRAFT STANDS | |
|---|---|
| 31 | N47 25 51.50, E019 15 36.66 |
| 32 | N47 25 52.48, E019 15 35.08 |
| 33 | N47 25 53.32, E019 15 31.36 |
| 34 | N47 25 55.32, E019 15 31.27 |
| 38 | N47 26 01.92, E019 15 29.13 |
| 39 | N47 26 00.92, E019 15 30.75 |
| 40 | N47 25 57.72, E019 15 34.53 |
| 42 | N47 26 02.44, E019 15 41.31 |
| 43 | N47 26 03.03, E019 15 42.10 |
| 44 | N47 26 03.78, E019 15 44.38 |
| 45 | N47 26 02.65, E019 15 46.21 |
| R210 | N47 26 06.69, E019 15 34.60 |
| R211 | N47 26 07.79, E019 15 36.08 |
| R212 | N47 26 08.89, E019 15 37.56 |
| R212A | N47 26 07.60, E019 15 35.86 |
| R220 | N47 26 01.14, E019 15 19.66 |
| R221 | N47 26 02.24, E019 15 21.14 |
| R222 | N47 26 03.67, E019 15 23.05 |
| R223 | N47 26 04.77, E019 15 24.53 |
| R224 | N47 26 08.09, E019 15 29.00 |
| R225 | N47 26 09.20, E019 15 30.48 |
| R226 | N47 26 10.63, E019 15 32.41 |
| R227 | N47 26 11.73, E019 15 33.89 |
| R270 | N47 26 08.94, E019 15 48.08 |
| R271 | N47 26 07.98, E019 15 49.63 |
| R272 | N47 26 07.02, E019 15 51.19 |
| R273 | N47 26 06.06, E019 15 52.74 |
| R274 | N47 26 04.87, E019 15 54.66 |
| R275 | N47 26 03.91, E019 15 56.21 |
| R276 | N47 26 02.95, E019 15 57.76 |
| R277 | N47 26 01.99, E019 15 59.31 |
| R278 | N47 26 00.46, E019 16 01.17 |
| R278A | N47 26 00.61, E019 16 00.61 |
| R279 | N47 25 59.27, E019 16 03.20 |

FOR BASIC CHART SYMBOLS SEE: GEN 2.3.
TAXI PROCEDURES SEE: AD 2-LHBP-MISC CHARTS.

VISUAL DOCKING GUIDANCE SYSTEM:
SAFEDOCK T2-18 AT PARKING POSITIONS 31-34, 42-45.

APRON ELEVATION: NOT AVAILABLE.
GEO. COORDINATES FOR TWY CENTRE LINES: NOT AVAILABLE.
OBSTACLES TO TAXIING: NOT AVAILABLE.

ELEVATIONS ARE IN FEET
DIMENSIONS ARE IN METRES
BEARINGS ARE MAGNETIC

SCALE 1 : 5 000

50 0 50 100 150 200 250 m
0 250 500 750 feet

LEGEND

VISUAL AIDS

- TWY centre line light (bi-directional and flush)
- TWY centre line light (unidirectional and flush)
- Omnidirectional TWY edge light
- Flood lighting

| MAXIMUM PERMISSIBLE WINGSPAN ON APRON 2 TAXIWAYS | |
|---|---|
| H1, P1, P2, Q, R, V, L | 52 m |
| P3 | 36 m, behind stand R278, R279: 65 m |
| P4, U | 65 m, behind stand 31, 32: 36 m |
| S, T7N, T7S, W1, W2 | 36 m |
| T7 | 61 m, with towing procedure: 65 m |

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|---|---|---|---|---|---|
| BUDAPEST APP | 122.975 | BUDAPEST TOWER | 118.100 | BUDAPEST APRON 1 | 131.555 |
| | 123.860 | BUDAPEST GROUND | 121.910 | | |
| | 119.510 | BUDAPEST DELIVERY | 134.540 | ATIS | 132.380 |
| BUDAPEST INFORMATION (NORTH) | | | 119.350 | ATIS (BUD VOR) | 117.300 |

# BUDAPEST/LISZT FERENC

## AIRCRAFT PARKING/DOCKING CHART - ICAO

## APRON AG, AA, AL

| | BEARING STRENGTH |
|---|---|
| APRON AG, APRON AA, APRON AL | PCN 75/R/B/X/T |
| Taxiways: A1, B1 | PCN 60/F/B/X/T |
| Taxiways: A2, B2, T | PCN 75/R/B/X/T |
| Taxiway: J4 | PCN 75/F/B/X/T |
| Taxiway width: 23 m, exception A1: 19 m. | |
| Remark: TWY A1 downgraded to code C ACFT (max. wingspan 36.00 m). | |

Helicopter alighting area
N47 26 08, E019 13 58
ELEV 427
Rectangle 120 x 120, GRASS
TRUE BRG of FATO: 312.5°

VAR 4° E ANNUAL RATE OF CHANGE 0.1° E

Geoid undulation 44 m 144 ft

LEGEND

VISUAL AIDS

- TWY centre line light (bi-directional and flush)
- TWY centre line light (unidirectional and flush)
- Omnidirectional TWY edge light
- Flood lighting

| INS COORDINATES FOR AIRCRAFT STANDS | |
|---|---|
| A1 | N47 25 51.92, E019 14 17.13 |
| A2 | N47 25 51.17, E019 14 19.39 |
| A3 | N47 25 50.41, E019 14 21.65 |
| A4 | N47 25 49.66, E019 14 23.92 |
| G130 | N47 25 54.88, E019 14 09.27 |
| G131 | N47 25 53.71, E019 14 08.02 |
| G132 | N47 25 54.17, E019 14 11.40 |
| G133 | N47 25 53.35, E019 14 09.09 |
| G134 | N47 25 53.46, E019 14 13.54 |
| G135 | N47 25 52.99, E019 14 10.16 |
| G137 | N47 25 52.64, E019 14 11.23 |
| G139 | N47 25 52.28, E019 14 12.30 |
| G141 | N47 25 51.92, E019 14 13.37 |
| L1 | N47 25 46.67, E019 14 32.94 |
| L2 | N47 25 45.82, E019 14 35.49 |

FOR BASIC CHART SYMBOLS SEE: GEN 2.3.
TAXI PROCEDURES SEE: AD 2-LHBP-MISC CHARTS.

APRON ELEVATION: NOT AVAILABLE.
GEO. COORDINATES FOR TWY CENTRE LINES: NOT AVAILABLE.
OBSTACLES TO TAXIING: NOT AVAILABLE.

ELEVATIONS ARE IN FEET
DIMENSIONS ARE IN METRES
BEARINGS ARE MAGNETIC

SCALE 1 : 5 000

50 0 50 100 150 200 250 m
0 250 500 750 feet

**LIGHTING**

**TWY**

| | |
|---|---|
| Taxiway edge: | Low intensity omnidirectional blue. |
| Taxiway centre line: | Low intensity unidirectional green on taxiways J4.<br>Low intensity bi-directional green on taxiways A2 and B2. |
| STOP bars: | Unidirectional red. |
| Apron: | Low intensity red edge lights and floodlights. |
| Obstacle light: | Low intensity red. |

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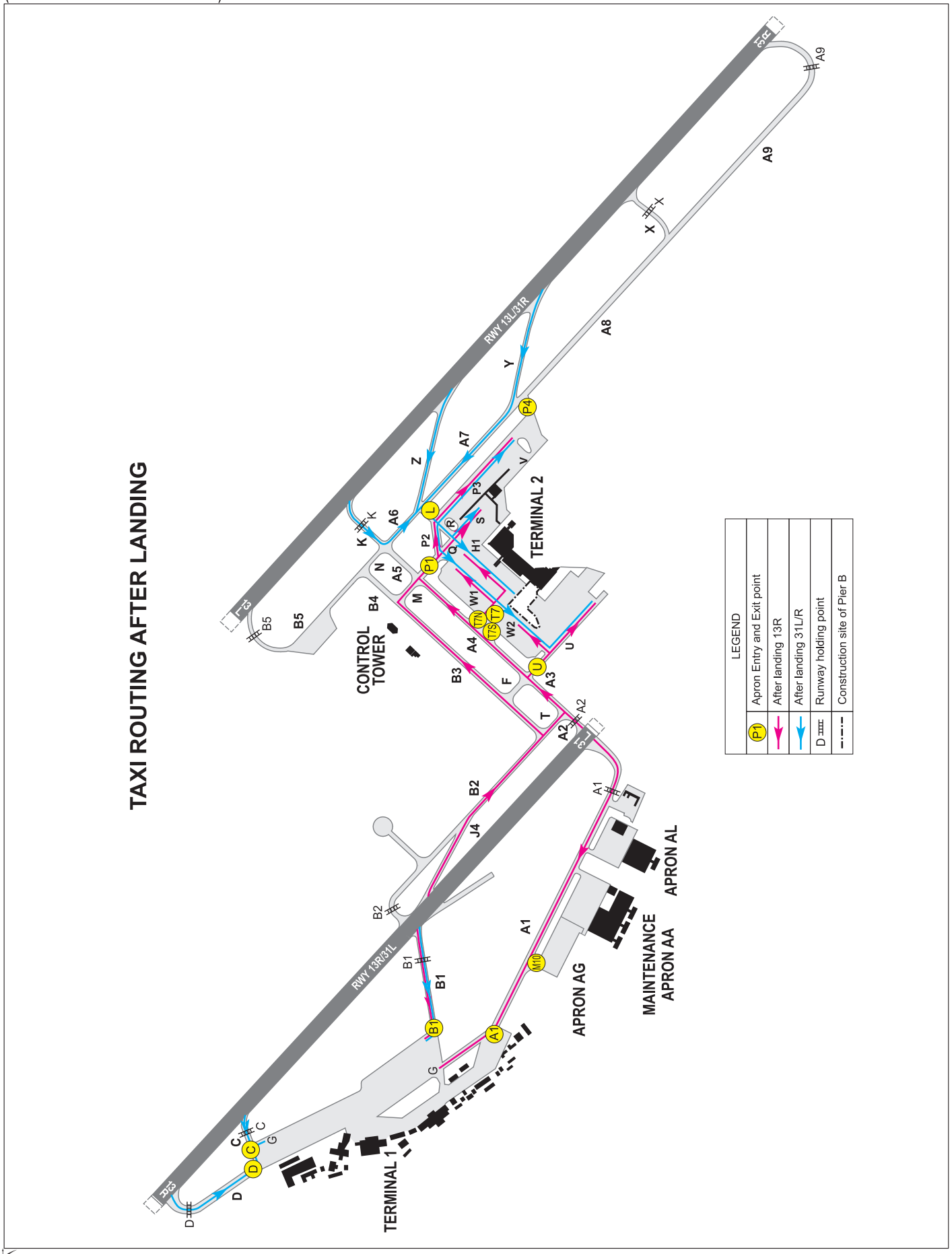
APPENDIX 1 TO AERODROME CHART - ICAO
TAXI PROCEDURES FOR ARRIVING AIRCRAFT
(PARALLEL RWY OPERATION)

# BUDAPEST/LISZT FERENC

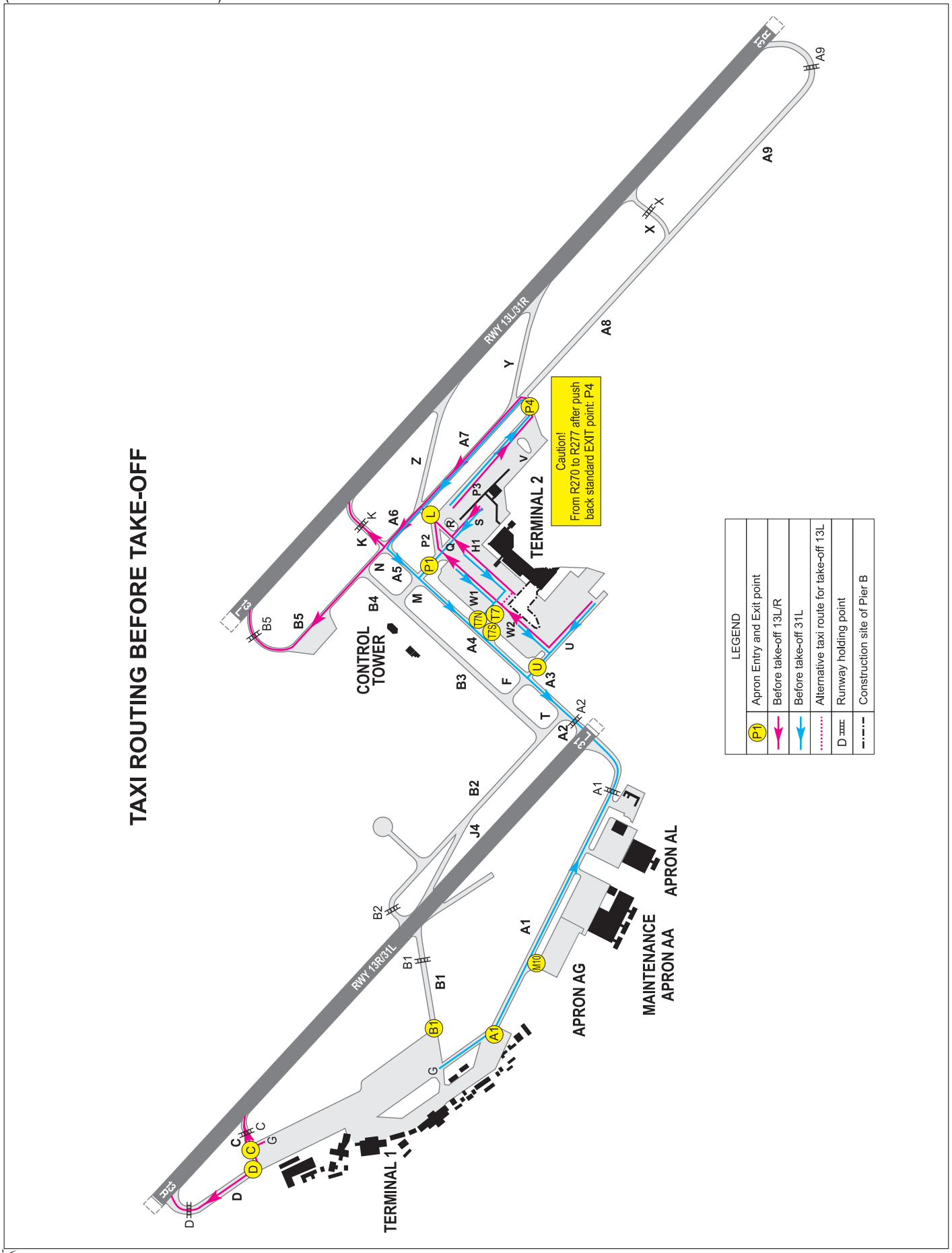


# AD 2 LIST OF AVAILABLE TAXI CLEARANCES FOR ARRIVING AIRCRAFT ISSUED BY ATC

| Arrivals on RWY | EXIT POINTS | Taxi route on manoeuvring area (TWY segments) to be followed | STAND/GATE NUMBERS | Taxi route on Apron (taxilane or TWY segments) to be followed | Terminal | Remarks |
|---|---|---|---|---|---|---|
| 13R | A1 | A1 | R101-R108<br>G150-G172<br>R110-R117A* | G | 1 | * Code D, E: B1 exit only |
| | B1 | B1 | | | | |
| | A1/B1 | A1/B1 | G130 - G141 | G/APRON taxilane | APRON AG | Max. Code B |
| | U | A2-A3-U or<br>J4/B2-T-A3-U | 31 - 34 | U-W2 | 2 | |
| | | | R220 - R223 | | | Max. Code C |
| | T7N | A2-A3-A4-T7N or<br>J4/B2-T-A3-A4-T7N | 38 - 40* | T7N | | * Code E exit T7 only by Follow Me |
| | | | 42<br>R210 - R212* | T7N-H1 | | |
| | | | R224 - R227 | T7N-W1 | | |
| | P1 | A2-A3-A4-P1 or<br>J4/B2-B3-M-P1<br>J4/B2-T-A3-A4-P1** | R270 - R279* | P1-P2-P3 | | * Code D, E only P4<br>** Due to traffic reason |
| | | | 43 - 45 | P1-Q-S | | |
| 31R | L | Y-A7-L or<br>Z-L<br>K-A6-L | 31 - 34* | L-P2-W1-W2-U | 2 | U after coordination;<br>* Code D, E via exit point U |
| | | | 38 - 40*<br>42 - 43<br>R210 - R212 | L-R-H1 | | * Code E exit T7 only by Follow Me |
| | | | R220 - R223 | L-P2-W1-W2 | | P4 after coordination;<br>* Code D, E enter P4 only |
| | | | R224 - R227 | L-P2-W1 | | |
| | | | R270 - R279* | L-P3 | | |
| | | | 44 - 45 | L-R-S | | |
| 31L | B1 | B1 | R101-R108<br>G150-G172<br>R110-R117A* | G | 1 | Code E restriction |
| | C | C | | | | |
| | D | D | | | | |
| | M10 | B1-A1 or D/C-G-A1 | G130 - G141 | G/Apron taxilane | APRON AG | Max. Code B |

APPENDIX 2 TO AERODROME CHART - ICAO
TAXI PROCEDURES FOR DEPARTING AIRCRAFT
(PARALLEL RWY OPERATION)

# BUDAPEST/LISZT FERENC



# AD 2 LIST OF AVAILABLE TAXI CLEARANCES FOR DEPARTING AIRCRAFT ISSUED BY ATC

| Departures on RWY | From stands/gates | EXIT POINTS | Taxi route on Apron(taxilane or TWY segments) to be followed | HOLDING POINTS | Taxi route on the maneuvering area (TWY segments) to be followed | Terminal | Remarks |
|---|---|---|---|---|---|---|---|
| 13L | 31 - 34* | L | U-W2-W1-P2-L | K or B5 on request | L-A6-K or L-A6-N-B5 | 2 | U after coordination; * Code D, E exit via U |
| | 38 - 40* | | H1-R-L | | | | T7N after coordination; * Code E exit via T7 only |
| | 42 - 43 | | | | | | |
| | R210 - R212 R224 - R227 | | W1-P2-L | | | | P1 after coordination |
| | R220 - R223 | | W2-W1-P2-L | | | | T7N or P1 after coordination |
| | 44 - 45 | | S-R-L | | | | P1 after coordination |
| | R270 - R277 | P4 | P3-P4 | | P4-A7-A6-K or P4-A7-A6-N-B5 | | L after coordination; * Code D, E exit P4 only |
| | R278 - R279* | | V-P4 | | | | |
| 13R | R101-R108 G150-172 R110-R117A* | C | G | C | C | 1 | * Code E, F exit via B1 only |
| | | D | G | D | D | | |
| | G130 - G141 | M10/C | Apron taxilane/G | C | C | | Follow the instructions |
| | | M10/D | | D | D | | |
| 31L | 31 - 34 | U | U | A2 | U-A3-A2 | 2 | |
| | R220 - R223 | | W2-U | | | | |
| | 38 - 40* | T7N | T7N | | T7N-A4-A3-A2 | | * Code E exit via T7 only ** Code D exit via P1, or L only |
| | 42 - 43** | | H1-T7N | | | | |
| | R210 - R212 R224 - R227 | | W1-T7N | | | | |
| | 44 - 45 | P1 | S-Q-P1 | | P1-A4-A3-A2 | | |
| | R270 - R277 | P4 | P3-P4 | | P4-A7-A6-A5-A4-A3-A2 | | Code C only P1 after coordination; * Code D, E exit P4 only |
| | R278 - R279* | | V-P4 | | | | |
| | R101-R108 G150-G172 R110-R117A* | A1 | G-A1 | A1 | A1 | 1 | * Code D, E via B1 only |
| | G130 - G141 | M10 | Apron taxilane | A1 or B1 on request | A1 or B1 | APRON AG | |

# GPS/FMS RNAV ARRIVAL CHART - TRANSITION TO FINAL APPROACH

# BUDAPEST/LISZT FERENC
RWY 13L

TRANSITION ALTITUDE
10000

| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| | | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST TOWER | 118.100 | ATIS | 132.380 (117.300) |
| BUDAPEST INFORMATION (NORTH) | | | 119.350 |

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES (ELEVATION AND HEIGHT) ARE IN FEET
DISTANCES ARE IN NAUTICAL MILES

**DESCENT PLANNING**
Pilots should plan for possible descent clearence as follows:
**RUTOL2L: FL150** or below by RUTOL
**ANEXA2L/B: FL130** or below by ANEXA
**ACTUAL DESCENT CLEARENCE WILL BE GIVEN BY ATC.**

RNAV 1
DME/DME or GNSS required.

- On downwind transition expect vector to final or shortcut to BP020.
- After receiving a "DIRECT TO WAYPOINT" - clearance and reaching this point without having received a follow-up clearance, continue via the remaining RNAV arrival procedure with the relevant constraints.
- Speed limits are mandatory from the respective waypoint throughout the entire transition route unless cancelled by ATC.

MNM SECT ALT 25 NM from TPS VOR

RUTOL N47 57 28.8 E018 30 36.0 FL150
ANEXA N47 51 17.0 E018 29 10.0 FL130
BP512 N47 48 27.7 E018 51 03.1 IAS 210 kt
BP523 N47 51 29.1 E018 57 17.4
MAMOS N47 47 15.8 E019 04 01.4
BP524 N47 44 14.3 E019 08 57.8
BP521 N47 39 12.7 E019 17 06.3
BP511 LHEM ESZTERGOM N47 44 47.6 E018 48 58.3 9000
BP022 N47 44 33.2 E018 57 25.9
BP417 N47 40 30.3 E018 40 03.1 IAS 210 kt
BP021 N47 40 33.0 E018 03 58.1
NARUT N47 40 52.8 E018 52 24.1 IAF RWY 13L 5000
SOMOK N47 37 22.2 E018 34 31.8
BP418 N47 36 29.4 E018 46 39.4
BP419 N47 32 28.2 E018 53 14.7
BP423 N47 32 50.0 E018 41 37.4
BP520 N47 35 33.5 E019 12 05.7 IAS 230 kt
BP525 N47 32 19.8 E019 26 46.8
BP420 N47 28 26.6 E018 59 49.1 IAS 230 kt
BP422 N47 28 48.8 E018 48 13.1 IAS 230 kt
BP421 N47 24 47.2 E018 54 47.8
VEBOS N47 18 23.4 E018 38 13.9
AGMAS N47 29 03.4 E019 41 29.8
JBR N47 29 37.5 E019 53 40.6
ABONY N47 16 15.0 E019 58 44.5

105° RUTOL2L 18.9
162° ANEXA2B ANEXA2L 14.4
128° 6.2
128° 4.5
128° 7.5
128° 5.9
039° 5.9
039° 6.0
308° 6.6
128° 6.0
039° 6.0
039° 5.0
308° 7.4
219° 5.0
284° 10.5
ABONY2L JBR2L 10.5
284°
JBR2L 8.3
262°
309° ABONY2L 17.4
313°
VEBOS2B 12.4
VEBOS2L 13.0
029°
056°
094°

FL190 TRL
FL190 7000

LHBT BATONYTERENYE
LHGY GYONGYOS/PIPISHEGY
LHAK ATKAR-GYONGYOSHALASZ
LHVE VERESEGYHAZ
LHDK DUNAKESZI
LHGD GODOLLO
LHKD KECSKED
LHFC BODMER-FELCSUT
LHFH BUDAKESZI/FARKASHEGY
LHBS BUDAORS
LHGR GYURO
LHTL TOKOL
LHKK KISKUNLACHAZA
LHTM TAPIOSZENTMARTON
LHCL CEGLED
LHSS SZOLNOK/SZANDASZOLOS
LHUH SARSZENTMIHALY/URHIDA
LHBD BORGOND/ALBA AIRPORT

FIR BRATISLAVA FIR UNLTD GND LZBB
TMA BUDAPEST TMA5 FL195 6500
TMA BUDAPEST TMA4 FL195 2500
TMA BUDAPEST TMA8 FL195 9500
TMA BUDAPEST TMA1 FL155 7500
TMA BUDAPEST TMA2 FL195 5500
TMA BUDAPEST TMA3 FL195 3500
TMA BUDAPEST TMA6 FL195 2000
TMA BUDAPEST TMA7 FL195 5500
TMA BUDAPEST TMA9 FL195 2000
CTR BUDAPEST CTR 2000 GND
LHSDZLHBD FL155 GND
LHSDZLHGR 6500 GND
LHSDZLHGD FL145 GND
FIR BUDAPEST FIR FL660 GND HCH

LHR1A 3500
LHSG2/S 6500 GND
LHSG2/V 6500 GND
LHD21 FL105
LHSG10 6500 GND
LHSG1 3500 GND
LHSG20 3000 GND
LHSG20A 4000 2000
LHSG24 FL285 GND
LHSG25 FL285 GND
LHSG30 FL285 GND
LHSG23 7500 GND
LHSG22 6500 GND
LHSG21 5000 GND
LHR1 3500
LHR6 7500
LHD7 FL500

SCALE 1 : 500 000
2 0 2 4 6 8 10 NM
0 4 8 12 16 20 km

Lambert Conformal Conic Projection
WGS84 datum

Elevation tints
3000
2000
1000
0 feet

| RUTOL 2L | |
|---|---|
| RUTOL | FL150- |
| BP523 | - |
| MAMOS | - |
| BP524 | - |
| BP521 | - |
| BP520 | IAS 230 |
| BP021 | - |
| BP022 | - |
| BP512 | IAS 210 |
| BP511 | A9000+ |
| NARUT | A5000+ |

| ANEXA 2L | |
|---|---|
| ANEXA | FL130- |
| SOMOK | - |
| BP423 | - |
| BP422 | - |
| BP421 | - |
| BP420 | IAS 230 |
| BP419 | - |
| BP418 | - |
| BP417 | IAS 210 |
| BP511 | A9000+ |
| NARUT | A5000+ |

| JBR 2L | |
|---|---|
| JBR | - |
| AGMAS | - |
| BP525 | - |
| BP520 | IAS 230 |
| BP021 | - |
| BP022 | - |
| BP512 | IAS 210 |
| BP511 | A9000+ |
| NARUT | A5000+ |

| ANEXA 2B | |
|---|---|
| ANEXA | FL130- |
| SOMOK | - |
| BP423 | - |
| BP422 | IAS 230 |
| BP419 | - |
| BP418 | - |
| BP417 | IAS 210 |
| BP511 | A9000+ |
| NARUT | A5000+ |

| ABONY 2L | |
|---|---|
| ABONY | - |
| AGMAS | - |
| BP525 | - |
| BP520 | IAS 230 |
| BP021 | - |
| BP022 | - |
| BP512 | IAS 210 |
| BP511 | A9000+ |
| NARUT | A5000+ |

| VEBOS 2L | |
|---|---|
| VEBOS | - |
| BP421 | - |
| BP420 | IAS 230 |
| BP419 | - |
| BP418 | - |
| BP417 | IAS 210 |
| BP511 | A9000+ |
| NARUT | A5000+ |

| VEBOS 2B | |
|---|---|
| VEBOS | - |
| BP422 | IAS 230 |
| BP419 | - |
| BP418 | - |
| BP417 | IAS 210 |
| BP511 | A9000+ |
| NARUT | A5000+ |

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# GPS/FMS RNAV ARRIVAL CHART - TRANSITION TO FINAL APPROACH

TRANSITION ALTITUDE
10000

| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| BUDAPEST TOWER | 118.100 | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST INFORMATION (NORTH) | | ATIS | 132.380 (117.300) 119.350 |

# BUDAPEST/LISZT FERENC
RWY 13R

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES (ELEVATION AND HEIGHT) ARE IN FEET
DISTANCES ARE IN NAUTICAL MILES

**DESCENT PLANNING**
Pilots should plan for possible descent clearance as follows:
**RUTOL2R: FL150** or below by RUTOL
**ANEXA2R/J: FL130** or below by ANEXA
**ACTUAL DESCENT CLEARANCE WILL BE GIVEN BY ATC.**

RNAV 1
DME/DME or GNSS required.

- On downwind transition expect vector to final or shortcut to BP010.
- After receiving a "DIRECT TO WAYPOINT" - clearance and reaching this point without having received a follow-up clearance, continue via the remaining RNAV arrival procedure with the relevant constraints.
- Speed limits are mandatory from the respective waypoint throughout the entire transition route unless cancelled by ATC.

MNM SECT ALT 25 NM from TPS VOR

RUTOL
N47 57 28.8
E018 30 36.0
FL150

ANEXA
N47 51 17.0
E018 29 10.0
FL130

RUTOL2R 18.9 105°

ANEXA2J 14.4 162°

ANEXA2R 14.4 162°

BP512
N47 48 27.7
E018 51 03.7
IAS 210 kt

BP523
N47 51 29.1
E018 57 17.4

128° 6.2

FL190
7000

MAMOS
N47 47 15.8
E019 04 01.4

BP524
N47 44 14.3
E019 08 57.8

4.5 75°

BP521
N47 38 12.7
E019 17 08.3

BP416
N47 44 09.7
E018 45 05.9
9000

LHEM ESZTERGOM

5.9 219°

BP022
N47 44 33.2
E018 57 25.9

5.8

BP021
N47 40 33.0
E019 03 58.1

6.0 7.4 308°

LHVE VERESEGYHAZ

5.0 219°

LHDK DUNAKESZI

LHSG20A 4000 2000

BP520
N47 35 33.5
E019 12 05.7
IAS 230 kt

10.5 284°

LHGD GODOLLO

BP525
N47 32 19.8
E019 26 46.8

ABONY2R JBR2R 10.5 284°

FL190
TRL

JBR2R 8.3 262°

JBR
N47 29 37.5
E019 53 40.6

AGMAS
N47 29 03.4
E019 41 29.8

309°

ABONY2R 17.4 313°

ABONY
N47 16 15.0
E019 58 44.5

5.0 039°

VATOR
N47 40 15.8
E018 51 35.1

IAF RWY 13R
5000

BP417
N47 40 30.3
E018 49 03.1
IAS 210 kt

6.0

BP418
N47 36 29.4
E018 46 39.4

308°

BP419
N47 32 28.2
E018 53 14.7

SOMOK
N47 37 22.2
E018 34 31.8

6.6 128°

BP423
N47 32 50.0
E018 41 37.4

6.0 039°

BP422
N47 28 48.8
E018 48 13.1
IAS 230 kt

6.0 039°

BP420
N47 28 26.6
E018 59 49.1
IAS 230 kt

LHBS BUDAORS

VEBOS2J 12.4

VEBOS2R 12.9

BP421
N47 24 47.2
E018 54 47.8

029°

056°

094°

VEBOS
N47 18 23.4
E018 38 13.9

FL190
TRL

LHGR GYURO

LHTL TOKOL

LHTM TAPIOSZENTMARTON

LHAK ATKAR-GYONGYOSHALASZ

LHGY GYONGYOS/PIPISHEGY

LHKD KECSKED

LHFC BODMER-FELCSUT

LHFH BUDAKESZI/ FARKASHEGY

LHKK KISKUNLACHAZA

LHCL CEGLED

LHSS SZOLNOK/SZANDASZOLOS

LHUH SARSZENTMIHALY/URHIDA

LHBD BORGOND/ALBA AIRPORT

LHSDZLHBD FL155 GND

LHSDZLHGD FL145 GND

LHSDZLHGR 6500 GND

FIR BRATISLAVA FIR UNLTD GND LZBB

FIR BUDAPEST FIR FL660 GND HCC

TMA BUDAPEST TMA5 FL195 6500

TMA BUDAPEST TMA4 FL195 2500

TMA BUDAPEST TMA8 FL195 9500

TMA BUDAPEST TMA1 FL155 7500

TMA BUDAPEST TMA2 FL195 5500

TMA BUDAPEST TMA3 FL195 3500

TMA BUDAPEST TMA6 FL195 2000

TMA BUDAPEST TMA7 FL195 5500

TMA BUDAPEST TMA9 FL195 2000

CTR BUDAPEST CTR 2000 GND

LHR1A 3500

LHSG2/S 6500 GND

LHSG2/V 6500 GND

LHD21 FL105

LHR1 3500

LHR6 7500

LHD7 FL300

LHSG1 3500 GND

LHSG10 6500 GND

LHSG20 3000 GND

LHSG21 5000 GND

LHSG22 6500 GND

LHSG23 7500 GND

LHSG24 FL280 GND

LHSG25 FL285 GND

LHSG30 FL285 GND

SCALE 1 : 500 000

2 0 2 4 6 8 10 NM
0 4 8 12 16 20 km

Lambert Conformal Conic Projection
WGS84 datum

Elevation tints
3000
2000
1000
0 feet

| RUTOL 2R | |
|---|---|
| RUTOL | FL150- |
| BP523 | - |
| MAMOS | - |
| BP524 | - |
| BP521 | - |
| BP520 | IAS 230 |
| BP021 | - |
| BP022 | - |
| BP512 | IAS 210 |
| BP416 | A9000+ |
| VATOR | A5000+ |

| ANEXA 2R | |
|---|---|
| ANEXA | FL130- |
| SOMOK | - |
| BP423 | - |
| BP422 | - |
| BP421 | - |
| BP420 | IAS 230 |
| BP419 | - |
| BP418 | - |
| BP417 | IAS 210 |
| BP416 | A9000+ |
| VATOR | A5000+ |

| JBR 2R | |
|---|---|
| JBR | - |
| AGMAS | - |
| BP525 | - |
| BP520 | IAS 230 |
| BP021 | - |
| BP022 | - |
| BP512 | IAS 210 |
| BP416 | A9000+ |
| VATOR | A5000+ |

| ANEXA 2J | |
|---|---|
| ANEXA | FL130- |
| SOMOK | - |
| BP423 | - |
| BP422 | IAS 230 |
| BP419 | - |
| BP418 | - |
| BP417 | IAS 210 |
| BP416 | A9000+ |
| VATOR | A5000+ |

| ABONY 2R | |
|---|---|
| ABONY | - |
| AGMAS | - |
| BP525 | - |
| BP520 | IAS 230 |
| BP021 | - |
| BP022 | - |
| BP512 | IAS 210 |
| BP416 | A9000+ |
| VATOR | A5000+ |

| VEBOS 2R | |
|---|---|
| VEBOS | - |
| BP421 | - |
| BP420 | IAS 230 |
| BP419 | - |
| BP418 | - |
| BP417 | IAS 210 |
| BP416 | A9000+ |
| VATOR | A5000+ |

| VEBOS 2J | |
|---|---|
| VEBOS | - |
| BP422 | IAS 230 |
| BP419 | - |
| BP418 | - |
| BP417 | IAS 210 |
| BP416 | A9000+ |
| VATOR | A5000+ |

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# GPS/FMS RNAV ARRIVAL CHART - TRANSITION TO FINAL APPROACH

TRANSITION ALTITUDE
10000

| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| BUDAPEST TOWER | 118.100 | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST INFORMATION (NORTH) | | ATIS | 132.380 (117.300) 119.350 |

# BUDAPEST/LISZT FERENC
RWY 31L

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES (ELEVATION AND HEIGHT) ARE IN FEET
DISTANCES ARE IN NAUTICAL MILES

**DESCENT PLANNING**
Pilots should plan for possible descent clearence as follows:
**RUTOL4L: FL210** or below by RUTOL
**ANEXA4L: FL180** or below by ANEXA
**ACTUAL DESCENT CLEARENCE WILL BE GIVEN BY ATC.**

RNAV 1
DME/DME or GNSS required.

- On downwind transition expect vector to final or shortcut to BP060.
- After receiving a "DIRECT TO WAYPOINT" - clearance and reaching this point without having received a follow-up clearance, continue via the remaining RNAV arrival procedure with the relevant constraints.
- Speed limits are mandatory from the respective waypoint throughout the entire transition route unless cancelled by ATC.

MNM SECT ALT 25 NM from TPS VOR

**RUTOL**
N47 57 28.8
E018 30 36.0
FL210

**ANEXA**
N47 51 17.0
E018 29 10.0
FL180

**ERGOM**
N47 48 29.6
E018 43 59.2

**MAMOS**
N47 47 15.8
E019 04 01.4

**BP540**
N47 39 05.5
E019 11 39.8

**BP539**
N47 33 14.9
E019 31 48.5

**TPS**
N47 29 35.7
E019 26 46.4

**AGMAS**
N47 29 03.4
E019 41 29.8

**JBR**
N47 29 37.5
E019 53 40.6

**ABONY**
N47 16 15.0
E019 58 44.5

**BP535**
N47 13 25.2
E019 47 38.3
IAS 210 kt

**BP032**
N47 17 18.6
E019 41 27.0

**BP031**
N47 21 22.3
E019 34 57.8
IAS 230 kt

**TURMU**
N47 13 00.0
E019 35 37.3
IAF RWY 31L
4000

**BP061**
N47 13 22.3
E019 24 10.5
IAS 230 kt

**BP062**
N47 09 19.2
E019 30 39.7

**BP429**
N47 09 08.2
E019 41 46.4

**BP430**
N47 05 28.9
E019 36 47.2
IAS 210 kt

**BP050**
N47 19 58.2
E019 13 37.1

**BP439**
N47 24 53.1
E019 05 45.5

**BP440**
N47 31 06.1
E018 55 45.7

**MOKSA**
N47 42 04.1
E018 37 58.3

**VEBOS**
N47 18 23.4
E018 38 13.9

**10000**
(Only RUTOL4L)

| RUTOL 4L | |
|---|---|
| RUTOL | FL210- |
| ERGOM | - |
| BP540 | - |
| TPS | A10000- |
| BP031 | IAS 230 |
| BP032 | - |
| BP535 | IAS 210 |
| BP429 | - |
| TURMU | A4000+ |

| JBR 4L | |
|---|---|
| JBR | - |
| AGMAS | - |
| BP539 | - |
| TPS | - |
| BP031 | IAS 230 |
| BP032 | - |
| BP535 | IAS 210 |
| BP429 | - |
| TURMU | A4000+ |

| ABONY 4L | |
|---|---|
| ABONY | - |
| AGMAS | - |
| BP539 | - |
| TPS | - |
| BP031 | IAS 230 |
| BP032 | - |
| BP535 | IAS 210 |
| BP429 | - |
| TURMU | A4000+ |

| VEBOS 4L | |
|---|---|
| VEBOS | - |
| BP440 | - |
| BP439 | - |
| BP050 | - |
| BP061 | IAS 230 |
| BP062 | - |
| BP430 | IAS 210 |
| BP429 | - |
| TURMU | A4000+ |

| ANEXA 4L | |
|---|---|
| ANEXA | FL180- |
| MOKSA | - |
| BP440 | - |
| BP439 | - |
| BP050 | - |
| BP061 | IAS 230 |
| BP062 | - |
| BP430 | IAS 210 |
| BP429 | - |
| TURMU | A4000+ |

SCALE 1 : 500 000
Lambert Conformal Conic Projection
WGS84 datum
Elevation tints: 3000 / 2000 / 1000 / 0 feet

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# GPS/FMS RNAV ARRIVAL CHART - TRANSITION TO FINAL APPROACH

# BUDAPEST/LISZT FERENC
RWY 31R

TRANSITION ALTITUDE
10000

| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| | | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST TOWER | 118.100 | ATIS | 132.380 (117.300) |
| BUDAPEST INFORMATION (NORTH) | 119.350 | | |

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES (ELEVATION AND HEIGHT) ARE IN FEET
DISTANCES ARE IN NAUTICAL MILES

**DESCENT PLANNING**
Pilots should plan for possible descent clearence as follows:
**RUTOL4R: FL210** or below by RUTOL
**ANEXA4R: FL180** or below by ANEXA
**ACTUAL DESCENT CLEARENCE WILL BE GIVEN BY ATC.**

RNAV 1
DME/DME or GNSS required.

- On downwind transition expect vector to final or shortcut to BP030.
- After receiving a "DIRECT TO WAYPOINT" - clearance and reaching this point without having received a follow-up clearance, continue via the remaining RNAV arrival procedure with the relevant constraints.
- Speed limits are mandatory from the respective waypoint throughout the entire transition route unless cancelled by ATC.

MNM SECT ALT 25 NM from TPS VOR

**RUTOL**
N47 57 28.8
E018 30 36.0
FL210

**ANEXA**
N47 51 17.0
E018 29 10.0
FL180

**ERGOM**
N47 48 29.6
E018 43 59.2

**MAMOS**
N47 47 15.8
E019 04 01.4

**BP540**
N47 39 05.5
E019 11 39.8

**BP539**
N47 33 14.9
E019 31 48.5

**TPS**
N47 29 35.7
E019 26 46.4

**AGMAS**
N47 29 03.4
E019 41 29.8

**JBR**
N47 29 37.5
E019 53 40.6

**BP031**
N47 21 22.3
E019 34 57.8
IAS 230 kt

**VAGAT**
N47 13 38.1
E019 36 28.7
IAF RWY 31R
4000

**BP032**
N47 17 18.6
E019 41 27.0

**BP535**
N47 13 25.2
E019 47 38.3
IAS 210 kt

**ABONY**
N47 16 15.0
E019 58 44.5

**BP534**
N47 09 46.0
E019 42 38.1

**BP430**
N47 05 28.9
E019 36 47.2
IAS 210 kt

**BP062**
N47 09 19.2
E019 30 39.7

**BP061**
N47 13 22.3
E019 24 10.5
IAS 230 kt

**BP050**
N47 19 58.2
E019 13 37.1

**BP439**
N47 24 53.1
E019 05 45.5

**BP440**
N47 31 06.1
E018 55 45.7

**MOKSA**
N47 42 04.1
E018 37 58.3

**VEBOS**
N47 18 23.4
E018 38 13.9

RUTOL4R 131° 12.7
ANEXA4R 143° 11.0
128° 20.9
113° 21.0
129° 14.0
219° 5.0
298° 7.8
262° 8.3
309° 17.4
313° 17.4
128° 6.0
128° 9.8
128° 9.9
142° 9.9
219° 5.0
308° 5.7
128° 5.7
039° 5.9
129° 7.3
128° 9.2
VEBOS4R 039° 17.4
094°
128° 16.3

FL190 7000
FL190 TRL
10000 (Only RUTOL4R)

LHBT BATONYTERENYE
LHGY GYONGYOS/PIPISHEGY
LHAK ATKAR-GYONGYOSHALASZ
LHVE VERESEGYHAZ
LHDK DUNAKESZI
LHGD GODOLLO
LHKD KECSKED
LHFC BODMER-FELCSUT
LHFH BUDAKESZI/FARKASHEGY
LHBS BUDAORS
LHGR GYURO
LHTL TOKOL
LHEM ESZTERGOM
LHTM TAPIOSZENTMARTON
LHCL CEGLED
LHSS SZOLNOK/SZANDASZOLOS
LHKK KISKUNLACHAZA
LHUH SARSZENTMIHALY/URHIDA
LHBD BORGOND/ALBA AIRPORT

FIR BRATISLAVA FIR UNLTD GND LZBB
FIR BUDAPEST FIR FL660 GND HCC
TMA BUDAPEST TMA1 FL155 7500
TMA BUDAPEST TMA2 FL195 5500
TMA BUDAPEST TMA3 FL195 3500
TMA BUDAPEST TMA4 FL195 2500
TMA BUDAPEST TMA5 FL195 6500
TMA BUDAPEST TMA6 FL195 2000
TMA BUDAPEST TMA7 FL195 5500
TMA BUDAPEST TMA8 FL195 9500
TMA BUDAPEST TMA9 FL195 2000
CTR BUDAPEST CTR 2000 GND
LHR1A 3500
LHSG2/S 6500 GND
LHSG2/V 6500 GND
LHR1 3500
LHR6 7500
LHD21 FL105
LHD7 FL300
LHSG1 3500 GND
LHSG3 6500 GND
LHSG10 6500 GND
LHSG20 3000 GND
LHSG20A 4000 2000
LHSG21 5000 GND
LHSG22 6500 GND
LHSG23 7500 GND
LHSG24 FL285 GND
LHSG25 FL285 GND
LHSG30 FL285 GND
LHSDZLHGD FL145 GND
LHSDZLHGR 6500 GND
LHSDZLHBD FL155 GND

| RUTOL 4R | |
|---|---|
| RUTOL | FL210- |
| ERGOM | - |
| BP540 | - |
| TPS | A10000- |
| BP031 | IAS 230 |
| BP032 | - |
| BP535 | IAS 210 |
| BP534 | - |
| VAGAT | A4000+ |

| JBR 4R | |
|---|---|
| JBR | - |
| AGMAS | - |
| BP539 | - |
| TPS | - |
| BP031 | IAS 230 |
| BP032 | - |
| BP535 | IAS 210 |
| BP534 | - |
| VAGAT | A4000+ |

| ABONY 4R | |
|---|---|
| ABONY | - |
| AGMAS | - |
| BP539 | - |
| TPS | - |
| BP031 | IAS 230 |
| BP032 | - |
| BP535 | IAS 210 |
| BP534 | - |
| VAGAT | A4000+ |

| VEBOS 4R | |
|---|---|
| VEBOS | - |
| BP440 | - |
| BP439 | - |
| BP050 | - |
| BP061 | IAS 230 |
| BP062 | - |
| BP430 | IAS 210 |
| BP534 | - |
| VAGAT | A4000+ |

| ANEXA 4R | |
|---|---|
| ANEXA | FL180- |
| MOKSA | - |
| BP440 | - |
| BP439 | - |
| BP050 | - |
| BP061 | IAS 230 |
| BP062 | - |
| BP430 | IAS 210 |
| BP534 | - |
| VAGAT | A4000+ |

SCALE 1 : 500 000
2 0 2 4 6 8 10 NM
0 4 8 12 16 20 km

Lambert Conformal Conic Projection
WGS84 datum

Elevation tints
3000
2000
1000
0 feet

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# BUDAPEST/LISZT FERENC
## RNAV RWY 13L
BADOV4B ERLOS4B GILEP4B LITKU4B
NALAG4B NORAH4B PUSTA4B TORNO4B

STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

TRANSITION ALTITUDE
10000

| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| BUDAPEST TOWER | 118.100 | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST INFORMATION (NORTH) | 119.350 | ATIS | 132.380 (117.300) |

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES (ELEVATION AND HEIGHT) ARE IN FEET
DISTANCES ARE IN NAUTICAL MILES

PBN INFO
RNAV1
GNSS or DME/DME
REQUIRED.

MIN. 5.5% PDG up to 10000.
If unable to comply, inform ATC.

MNM SECT ALT 25 NM
from ARP

BADOV
N48 01 16.0
E018 48 57.0
FL180
FL140

BADOV4B 11.2 292°

BP719
N47 56 20.4
E019 04 01.9

15.9 309°

BP718
N47 45 29.4
E019 21 17.3
8000

13.7 309°

BP717
N48 00 54.6
E019 33 13.0

LITKU
N48 13 49.9
E019 35 54.7
FL180
FL140

004° 13.0

NALAG
N48 02 33.0
E019 45 57.0
FL170

NALAG4B 8.7 075°

LITKU4B NALAG4B 16.7 352°

BP716
N47 44 13.1
E019 34 54.5
8000

7.7 352°

BP715
N47 36 35.3
E019 35 40.1
6000

NORAH4B 8.7 083°

NORAH
N47 36 58.5
E019 48 29.4
FL130

016° 17.4

BADOV4B LITKU4B NALAG4B NORAH4B

No turns before DER.

BP714
N47 23 17.9
E019 23 03.8
MAX IAS 230 kt

TORNO
N47 32 23.2
E018 29 24.4
FL160

TORNO4B 14.1 304°

GILEP
N47 29 00.2
E018 15 31.6
FL160

GILEP4B 21.2 280°

BP609
N47 23 47.2
E018 45 54.1

6.2 280°

BP610
N47 22 13.6
E018 54 49.4
7000

GILEP4B TORNO4B 24.8 277°

26.9 235°

BP612
N47 12 49.9
E018 53 34.3
MAX IAS 250 kt

PUSTA4B 7.2 235°

PUSTA
N47 09 08.0
E018 44 32.3
FL180

ERLOS4B 18.0 115°

ERLOS
N47 04 03.0
E019 16 30.0
FL170

FIR BRATISLAVA FIR UNLTD GND LZBB

TMA BUDAPEST TMA5 FL195 6500

TMA BUDAPEST TMA4 FL195 2500

TMA BUDAPEST TMA8 FL195 9500

TMA BUDAPEST TMA1 FL195 7500

TMA BUDAPEST TMA2 FL195 5500

TMA BUDAPEST TMA3 FL195 3500

TMA BUDAPEST TMA7 FL195 5500

TMA BUDAPEST TMA6 FL195 2000

TMA BUDAPEST TMA9 FL195 2000

CTR BUDAPEST CTR 2000 GND

LHR1A 3500
LHSG2/S 6500 GND
LHSG2/V 6500 GND
LHD21 FL105
LHSG10 6500 GND
LHSG1 3500 GND
LHSG3 6500 GND
LHSG20 3000 GND
LHSG20A 4000 2000
LHSG24 FL285 GND
LHSG25 FL285 GND
LHSG22 6500 GND
LHSG23 7500 GND
LHSG30 FL285 GND
LHSG21 5000 GND
LHSDZLHGD FL145 GND
LHSDZLHBD FL155 GND
LHSDZLHGR 6500 GND
LHR6 7500
LHD3 FL300

LHEM ESZTERGOM
LHVE VERESEGYHAZ
LHDK DUNAKESZI
LHGD GODOLLO
LHFC BODMER-FELCSUT
LHFH BUDAKESZI/FARKASHEGY
LHBS BUDAORS
LHGR GYURO
LHTL TOKOL
LHKD KECSKED
LHUH SARSZENTMIHALY/URHIDA
LHBD BORGOND/ALBA AIRPORT
LHBT BATONYTERENYE
LHGY GYONGYOS/PIPISHEGY
LHAK ATKAR-GYONGYOSHALASZ
LHTM TAPIOSZENTMARTON
LHKK KISKUNLACHAZA
LHCL CEGLED
LHSS SZOLNOK/SZANDASZOLOS

Lambert Conformal Conic Projection
WGS84 datum

SCALE 1 : 500 000

Elevation tints
3000
2000
1000
0 feet

## AD 2 LHBP STANDARD DEPARTURE CHART INSTRUMENT RWY 13L

An aeroplane should not be diverted from its assigned route unless:
it is necessary for the safety of the aeroplane (e.g. for avoidance of severe weather or to resolve a traffic conflict).

**CLIMBING:**
Min. 5.5% PDG up to 10000. If unable to comply, inform ATC. After departure climb initially 7000. Further climb only by ATC.

**CONTACT:**
If pilot not otherwise instructed by Budapest TWR, all departing aircraft, irrespective of the assigned SID, when passing 1500, shall contact Budapest APP on 122.975.

**R/T FAILURE:**
If a departing controlled aircraft having acknowledged an initial (eg. 7000) or intermediate clearance, to climb to a level other than the one specified in the filed FPL for the en-route phase of the flight and no time or geographical limit was included in the clearance, should maintain for a period of seven minutes the level (eg. 7000) to which it was cleared and then should climb to the level included in the filed FPL unless the cruising level was definitely specified in the en-route clearance.

| SID NAME | PROCEDURE | RESTRICTIONS |
|---|---|---|
| **NORAH4B** | To BP714 climb on course 115°, no turns before DER.<br>To BP715 on course 016°, at or above 6000.<br>To NORAH, at or below FL130. | MAX 230 KT IAS at BP714.<br>MAX 250 KT IAS at BP612. |
| **NALAG4B** | To BP714 climb on course 115°, no turns before DER.<br>To BP715 on course 016°, at or above 6000.<br>To BP716, at or above 8000.<br>To BP717, to NALAG at or below FL170. | |
| **LITKU4B** | To BP714 climb on course 115°, no turns before DER.<br>To BP715 on course 016°, at or above 6000.<br>To BP716, at or above 8000.<br>To BP717, to LITKU between FL140 and FL180. | |
| **BADOV4B** | To BP714 climb on course 115°, no turns before DER.<br>To BP715 on course 016°, at or above 6000.<br>To BP718, at or above 8000.<br>To BP719, to BADOV between FL140 and FL180. | |
| **TORNO4B** | To BP714 climb on course 115°, no turns before DER.<br>Direct to BP610, at or above 7000.<br>To BP609, to TORNO at or below FL160. | |
| **GILEP4B** | To BP714 climb on course 115°, no turns before DER.<br>Direct to BP610, at or above 7000.<br>To GILEP at or below FL160. | |
| **PUSTA4B** | To BP714 climb on course 115°, no turns before DER.<br>To BP612 on course 235°.<br>To PUSTA at or below FL180. | |
| **ERLOS4B** | To BP714 climb on course 115°, no turns before DER.<br>To BP612 on course 235°.<br>To ERLOS at or below FL170. | |

Recommended navaid: BUD VOR.

# BUDAPEST/LISZT FERENC
## RNAV RWY 13R

BADOV4J ERLOS4J GILEP4J LITKU4J
NALAG4J NORAH4J PUSTA4J TORNO4J

STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

TRANSITION ALTITUDE
10000

| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| BUDAPEST TOWER | 118.100 | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST INFORMATION (NORTH) | 119.350 | ATIS | 132.380 (117.300) |

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES (ELEVATION AND HEIGHT) ARE IN FEET
DISTANCES ARE IN NAUTICAL MILES

PBN INFO
RNAV1
GNSS or DME/DME
REQUIRED.

MIN. 5.5% PDG up to 10000.
If unable to comply, inform ATC.

MNM SECT ALT 25 NM from ARP

BADOV
N48 01 16.0
E018 48 57.0
FL180
FL140

BADOV4J 11.2 292°

BP719
N47 56 20.4
E019 04 01.9

15.9 309°

BP718
N47 45 29.4
E019 21 17.3
8000

13.7 309°

BP717
N48 00 54.6
E019 33 13.0

004° 13.0

LITKU
N48 13 49.9
E019 35 54.7
FL180
FL140

NALAG4J 8.7 075°

NALAG
N48 02 33.0
E019 45 57.0
FL170

LITKU4J NALAG4J 16.7 352°

BP716
N47 44 13.1
E019 34 54.5
8000

7.7 352°

BP715
N47 36 35.3
E019 35 40.1
6000

NORAH4J 8.7 083°

NORAH
N47 36 58.5
E019 48 29.4
FL130

016° 19.9 BADOV4J LITKU4J NALAG4J NORAH4J

ERLOS
N47 04 03.0
E019 16 30.0
FL170

ERLOS4J 18.0 115°

PUSTA
N47 09 08.0
E018 44 32.3
FL180

PUSTA4J 7.2 235°

BP612
N47 12 49.9
E018 53 34.3
MAX IAS 250 kt

24.5 235°

GILEP4J TORNO4J 23.0 282°

BP613
N47 21 58.6
E019 21 15.0
MAX IAS 230 kt

BP610
N47 22 13.6
E018 54 49.4
7000

6.2 280°

BP609
N47 23 47.2
E018 45 54.1

GILEP4J 21.2 280°

GILEP
N47 29 00.2
E018 15 31.6
FL160

TORNO4J 14.1 304°

TORNO
N47 32 23.2
E018 29 24.4
FL160

LHEM ESZTERGOM
LHVE VERESEGYHAZ
LHDK DUNAKESZI
LHGD GODOLLO
LHFH BUDAKESZI/FARKASHEGY
LHBS BUDAORS
LHGR GYURO
LHTL TOKOL
LHKD KECSKED
LHFC BODMER-FELCSUT
LHBT BATONYTERENYE
LHGY GYONGYOS/PIPISHEGY
LHAK ATKAR-GYONGYOSHALASZ
LHTM TAPIOSZENTMARTON
LHCL CEGLED
LHSS SZOLNOK/SZANDASZOLOS
LHUH SARSZENTMIHALY/URHIDA
LHBD BORGOND/ALBA AIRPORT

FIR BRATISLAVA FIR UNLTD GND LZBB
FIR BUDAPEST FIR FL660 GND HCC

TMA BUDAPEST TMA1 FL195 7500
TMA BUDAPEST TMA2 FL195 5500
TMA BUDAPEST TMA3 FL195 3500
TMA BUDAPEST TMA4 FL195 2500
TMA BUDAPEST TMA5 FL195 6500
TMA BUDAPEST TMA6 FL195 2000
TMA BUDAPEST TMA7 FL195 5500
TMA BUDAPEST TMA8 FL195 9500
TMA BUDAPEST TMA9 FL195 2000
CTR BUDAPEST CTR 2000 GND

LHR1A 3500
LHR1 3500
LHR6 7500
LHSG1 3500 GND
LHSG2/S 6500 GND
LHSG2/V 6500 GND
LHSG3 6500 GND
LHSG10 6500 GND
LHSG20 3000 GND
LHSG20A 4000 2000
LHSG21 5000 GND
LHSG22 6500 GND
LHSG23 7500 GND
LHSG24 FL285 GND
LHSG25 FL285 GND
LHSG30 FL285 GND
LHD21 FL105
LHD3 FL300
LHSDZLHGD FL145 GND
LHSDZLHBD FL155 GND
LHSDZLHGR 6500 GND

Lambert Conformal Conic Projection
WGS84 datum

SCALE 1 : 500 000

Elevation tints: 3000 2000 1000 0 feet

## AD 2 LHBP STANDARD DEPARTURE CHART INSTRUMENT RWY 13R

An aeroplane should not be diverted from its assigned route unless:
it is necessary for the safety of the aeroplane (e.g. for avoidance of severe weather or to resolve a traffic conflict).

**CLIMBING:**
Min. 5.5% PDG up to 10000. If unable to comply, inform ATC. After departure climb initially 7000. Further climb only by ATC.

**CONTACT:**
If pilot not otherwise instructed by Budapest TWR, all departing aircraft, irrespective of the assigned SID, when passing 1500, shall contact Budapest APP on 122.975.

**R/T FAILURE:**
If a departing controlled aircraft having acknowledged an initial (eg. 7000) or intermediate clearance, to climb to a level other than the one specified in the filed FPL for the en-route phase of the flight and no time or geographical limit was included in the clearance, should maintain for a period of seven minutes the level (eg. 7000) to which it was cleared and then should climb to the level included in the filed FPL unless the cruising level was definitely specified in the en-route clearance.

| SID NAME | PROCEDURE | RESTRICTIONS |
|---|---|---|
| **NORAH4J** | To BP613 climb on course 128°.<br>To BP715 on course 016°, at or above 6000.<br>To NORAH, at or below FL130. | MAX 230 KT IAS at BP613.<br>MAX 250 KT IAS at BP612. |
| **NALAG4J** | To BP613 climb on course 128°.<br>To BP715 on course 016°, at or above 6000.<br>To BP716, at or above 8000.<br>To BP717, to NALAG at or below FL170. | |
| **LITKU4J** | To BP613 climb on course 128°.<br>To BP715 on course 016°, at or above 6000.<br>To BP716, at or above 8000.<br>To BP717, to LITKU between FL140 and FL180. | |
| **BADOV4J** | To BP613 climb on course 128°.<br>To BP715 on course 016°, at or above 6000.<br>To BP718, at or above 8000.<br>To BP719, to BADOV between FL140 and FL180. | |
| **TORNO4J** | To BP613 climb on course 128°.<br>Direct to BP610, at or above 7000.<br>To BP609, to TORNO at or below FL160. | |
| **GILEP4J** | To BP613 climb on course 128°.<br>Direct to BP610, at or above 7000.<br>To GILEP at or below FL160. | |
| **PUSTA4J** | To BP613 climb on course 128°.<br>To BP612 on course 235°.<br>To PUSTA at or below FL180. | |
| **ERLOS4J** | To BP613 climb on course 128°.<br>To BP612 on course 235°.<br>To ERLOS at or below FL170. | |

Recommended navaid: BUD VOR.

# BUDAPEST/LISZT FERENC
## RNAV RWY 31L

BADOV4L ERLOS4L GILEP4L GILEP4X LITKU4L LITKU4X
NALAG4L NALAG4X NORAH4L PUSTA4L TORNO4X

STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

TRANSITION ALTITUDE
10000

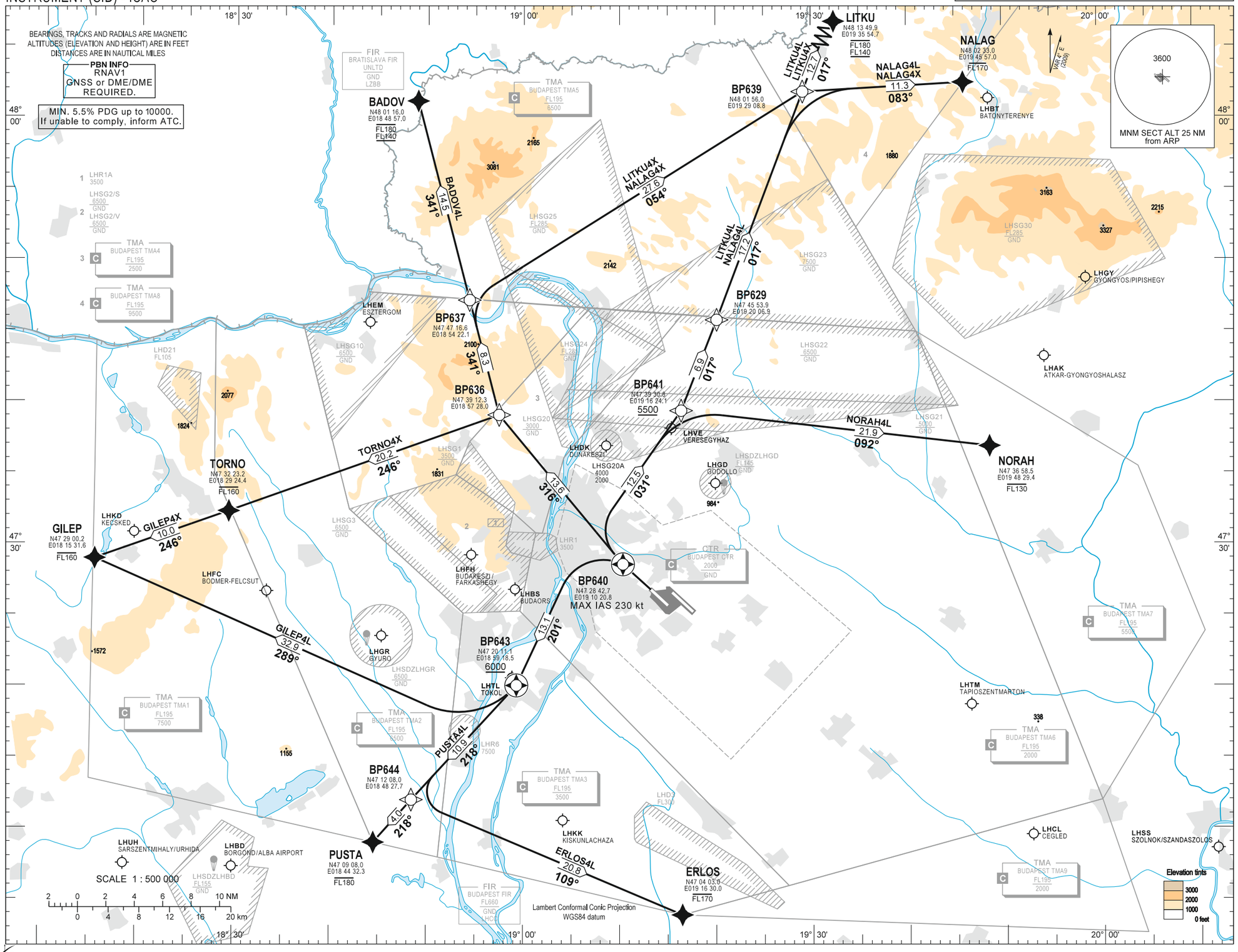
| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| BUDAPEST TOWER | 118.100 | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST INFORMATION (NORTH) | | ATIS | 132.380 (117.300) |
| | | | 119.350 |

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES (ELEVATION AND HEIGHT) ARE IN FEET
DISTANCES ARE IN NAUTICAL MILES

PBN INFO
RNAV1
GNSS or DME/DME
REQUIRED.

MIN. 5.5% PDG up to 10000.
If unable to comply, inform ATC.

MNM SECT ALT 25 NM from ARP



## AD 2 LHBP STANDARD DEPARTURE CHART INSTRUMENT RWY 31L

An aeroplane should not be diverted from its assigned route unless:
it is necessary for the safety of the aeroplane (e.g. for avoidance of severe weather or to resolve a traffic conflict).

**CLIMBING:**
Min. 5.5% PDG up to 10000. If unable to comply, inform ATC. After departure climb initially 7000. Further climb only by ATC.

**CONTACT:**
If pilot not otherwise instructed by Budapest TWR, all departing aircraft, irrespective of the assigned SID, when passing 1500, shall contact Budapest APP on 122.975.

**R/T FAILURE:**
If a departing controlled aircraft having acknowledged an initial (eg. 7000) or intermediate clearance, to climb to a level other than the one specified in the filed FPL for the en-route phase of the flight and no time or geographical limit was included in the clearance, should maintain for a period of seven minutes the level (eg. 7000) to which it was cleared and then should climb to the level included in the filed FPL unless the cruising level was definitely specified in the en-route clearance.

| SID NAME | PROCEDURE | RESTRICTIONS |
|---|---|---|
| **NORAH4L** | To BP640 climb on course 308°.<br>To BP641 on course 031°, at or above 5500.<br>To NORAH, at or below FL130. | MAX 230 KT IAS at BP640. |
| **NALAG4L** | To BP640 climb on course 308°.<br>To BP641 on course 031°, at or above 5500.<br>To BP629, to BP639, to NALAG at or below FL170. | |
| **NALAG4X** | To BP640 climb on course 308°.<br>Direct to BP636.<br>To BP637, to BP639, to NALAG at or below FL170. | |
| **LITKU4L** | To BP640 climb on course 308°.<br>To BP641 on course 031°, at or above 5500.<br>To BP629, to BP639, to LITKU between FL140 and FL180. | |
| **LITKU4X** | To BP640 climb on course 308°.<br>Direct to BP636.<br>To BP637, to BP639, to LITKU between FL140 and FL180. | |
| **BADOV4L** | To BP640 climb on course 308°.<br>Direct to BP636.<br>To BADOV between FL140 and FL180. | |
| **TORNO4X** | To BP640 climb on course 308°.<br>Direct to BP636.<br>To TORNO at or below FL160. | |
| **GILEP4L** | To BP640 climb on course 308°.<br>To BP643 on course 201°, at or above 6000.<br>To GILEP at or below FL160. | |
| **GILEP4X** | To BP640 climb on course 308°.<br>Direct to BP636.<br>To GILEP at or below FL160. | |
| **PUSTA4L** | To BP640 climb on course 308°.<br>To BP643 on course 201°, at or above 6000.<br>To PUSTA at or below FL180. | |
| **ERLOS4L** | To BP640 climb on course 308°.<br>To BP643 on course 201°, at or above 6000.<br>To BP644, to ERLOS at or below FL170. | |

Recommended navaid: BUD VOR.

# BUDAPEST/LISZT FERENC
## RNAV RWY 31R

BADOV4R ERLOS4R GILEP4A GILEP4R LITKU4A LITKU4R
NALAG4A NALAG4R NORAH4R PUSTA4R TORNO4A

STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

TRANSITION ALTITUDE
10000

| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| BUDAPEST TOWER | 118.100 | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST INFORMATION (NORTH) | | ATIS | 132.380 (117.300) 119.350 |

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES (ELEVATION AND HEIGHT) ARE IN FEET
DISTANCES ARE IN NAUTICAL MILES

PBN INFO
RNAV1
GNSS or DME/DME
REQUIRED.

MIN. 5.5% PDG up to 10000.
If unable to comply, inform ATC.

MNM SECT ALT 25 NM from ARP

BADOV
N48 01 16.0
E018 48 57.0
FL180 FL140

BP639
N48 01 56.0
E019 29 08.8

LITKU
N48 13 49.9
E019 35 54.7
FL180 FL140

NALAG
N48 02 35.0
E019 45 57.0
FL170

BP637
N47 47 16.6
E018 54 22.1

BP629
N47 45 53.9
E019 20 06.9

BP641
N47 39 30.6
E019 16 24.1
5500

BP636
N47 39 12.3
E018 57 28.0

BP640
N47 28 42.7
E019 10 20.8
MAX IAS 230 kt

BP643
N47 20 11.1
E018 59 18.5
6000

BP644
N47 12 08.0
E018 48 27.7

TORNO
N47 32 23.2
E018 29 24.4
FL160

NORAH
N47 36 58.5
E019 48 29.4
FL130

GILEP
N47 29 00.2
E018 15 31.6
FL160

PUSTA
N47 09 08.0
E018 44 32.3
FL180

ERLOS
N47 04 03.0
E019 16 30.0
FL170

LITKU4A LITKU4R 12.7 017°
NALAG4A NALAG4R 11.3 083°
BADOV4R 14.5 341°
LITKU4A NALAG4A 27.6 054°
LITKU4R NALAG4R 17.2 017°
BP637 2100 8.3 341°
BP629 6.9 017°
BP636 13.6 316°
BP641 12.5 031°
NORAH4R 21.9 092°
TORNO4A 20.2 246°
GILEP4A 10.0 246°
GILEP4R 32.9 289°
BP643 13.1 201°
PUSTA4R 10.9 218°
BP644 4.0 218°
ERLOS4R 20.8 109°

LHBT BATONYTERENYE
LHGY GYONGYOS/PIPISHEGY
LHAK ATKAR-GYONGYOSHALASZ
LHEM ESZTERGOM
LHVE VERESEGYHAZ
LHDK DUNAKESZI
LHKD KECSKED
LHFC BODMER-FELCSUT
LHFH BUDAKESZI/FARKASHEGY
LHBS BUDAORS
LHGR GYURO
LHTL TOKOL
LHTM TAPIOSZENTMARTON
LHKK KISKUNLACHAZA
LHCL CEGLED
LHSS SZOLNOK/SZANDASZOLOS
LHUH SARSZENTMIHALY/URHIDA
LHBD BORGOND/ALBA AIRPORT
LHGD GODOLLO

FIR BRATISLAVA FIR UNLTD GND LZBB
TMA BUDAPEST TMA5 FL195 6500
TMA BUDAPEST TMA4 FL195 2500
TMA BUDAPEST TMA8 FL195 9500
TMA BUDAPEST TMA1 FL195 7500
TMA BUDAPEST TMA2 FL195 5500
TMA BUDAPEST TMA3 FL195 3500
TMA BUDAPEST TMA6 FL195 2000
TMA BUDAPEST TMA7 FL195 5500
TMA BUDAPEST TMA9 FL195 2000
CTR BUDAPEST CTR 2000 GND
FIR BUDAPEST FIR FL660 GND HCH
LHR1A 3500
LHSG2/S 6500 GND
LHSG2/V 6500 GND
LHD21 FL105
LHR1 3500
LHR6 7500
LHD3 FL300
LHSG1 3500 GND
LHSG3 6500 GND
LHSG10 6500 GND
LHSG20 3000 GND
LHSG20A 4000 2000
LHSG21 5000 GND
LHSG22 6500 GND
LHSG23 7500 GND
LHSG24 FL285 GND
LHSG25 FL285 GND
LHSG30 FL285 GND
LHSDZLHGD FL145 GND
LHSDZLHGR 6500 GND
LHSDZLHBD FL155 GND

No turns before DER.

Elevation tints
3000
2000
1000
0 feet

SCALE 1 : 500 000
2 0 2 4 6 8 10 NM
0 4 8 12 16 20 km

Lambert Conformal Conic Projection
WGS84 datum

## AD 2 LHBP STANDARD DEPARTURE CHART INSTRUMENT RWY 31R

An aeroplane should not be diverted from its assigned route unless:
it is necessary for the safety of the aeroplane (e.g. for avoidance of severe weather or to resolve a traffic conflict).

**CLIMBING:**
Min. 5.5% PDG up to 10000. If unable to comply, inform ATC. After departure climb initially 7000. Further climb only by ATC.

**CONTACT:**
If pilot not otherwise instructed by Budapest TWR, all departing aircraft, irrespective of the assigned SID, when passing 1500, shall contact Budapest APP on 122.975.

**R/T FAILURE:**
If a departing controlled aircraft having acknowledged an initial (eg. 7000) or intermediate clearance, to climb to a level other than the one specified in the filed FPL for the en-route phase of the flight and no time or geographical limit was included in the clearance, should maintain for a period of seven minutes the level (eg. 7000) to which it was cleared and then should climb to the level included in the filed FPL unless the cruising level was definitely specified in the en-route clearance.

| SID NAME | PROCEDURE | RESTRICTIONS |
|---|---|---|
| **NORAH4R** | To BP640 climb on course 296°, no turns before DER.<br>To BP641 on course 031°, at or above 5500.<br>To NORAH, at or below FL130. | MAX 230 KT IAS at BP640. |
| **NALAG4R** | To BP640 climb on course 296°, no turns before DER.<br>To BP641 on course 031°, at or above 5500.<br>To BP629, to BP639, to NALAG at or below FL170. | |
| **NALAG4A** | To BP640 climb on course 296°, no turns before DER.<br>Direct to BP636.<br>To BP637, to BP639, to NALAG at or below FL170. | |
| **LITKU4R** | To BP640 climb on course 296°, no turns before DER.<br>To BP641 on course 031°, at or above 5500.<br>To BP629, to BP639, to LITKU between FL140 and FL180. | |
| **LITKU4A** | To BP640 climb on course 296°, no turns before DER.<br>Direct to BP636.<br>To BP637, to BP639, to LITKU between FL140 and FL180. | |
| **BADOV4R** | To BP640 climb on course 296°, no turns before DER.<br>Direct to BP636.<br>To BADOV between FL140 and FL180. | |
| **TORNO4A** | To BP640 climb on course 296°, no turns before DER.<br>Direct to BP636.<br>To TORNO at or below FL160. | |
| **GILEP4R** | To BP640 climb on course 296°, no turns before DER.<br>To BP643 on course 201°, at or above 6000.<br>To GILEP at or below FL160. | |
| **GILEP4A** | To BP640 climb on course 296°, no turns before DER.<br>Direct to BP636.<br>To GILEP at or below FL160. | |
| **PUSTA4R** | To BP640 climb on course 296°, no turns before DER.<br>To BP643 on course 201°, at or above 6000.<br>To PUSTA at or below FL180. | |
| **ERLOS4R** | To BP640 climb on course 296°, no turns before DER.<br>To BP643 on course 201°, at or above 6000.<br>To BP644, to ERLOS at or below FL170. | |

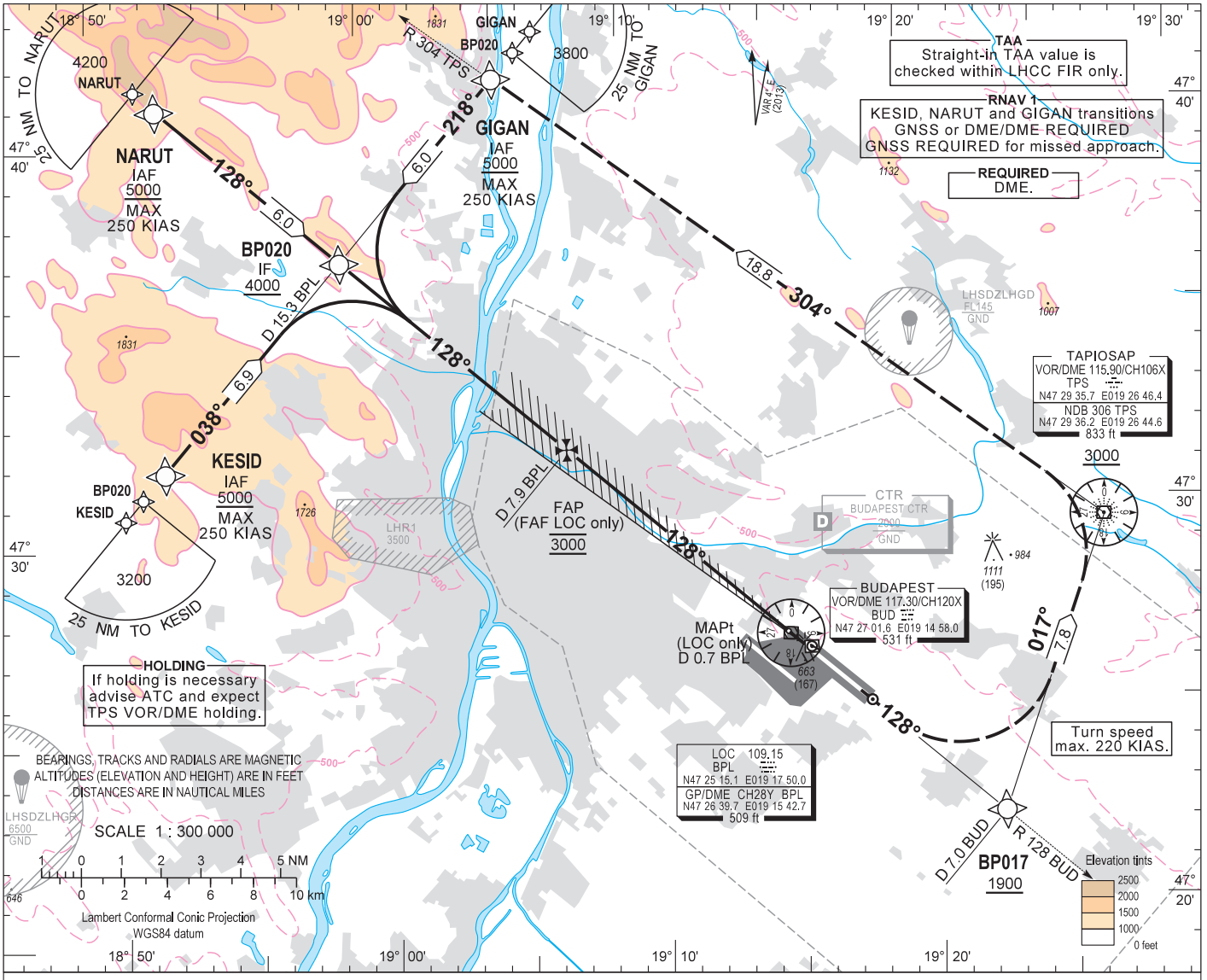
Recommended navaid: BUD VOR.

# BUDAPEST/LISZT FERENC
## ILS or LOC RWY 13L
(ACFT CAT A, B, C, D)

INSTRUMENT APPROACH CHART - ICAO

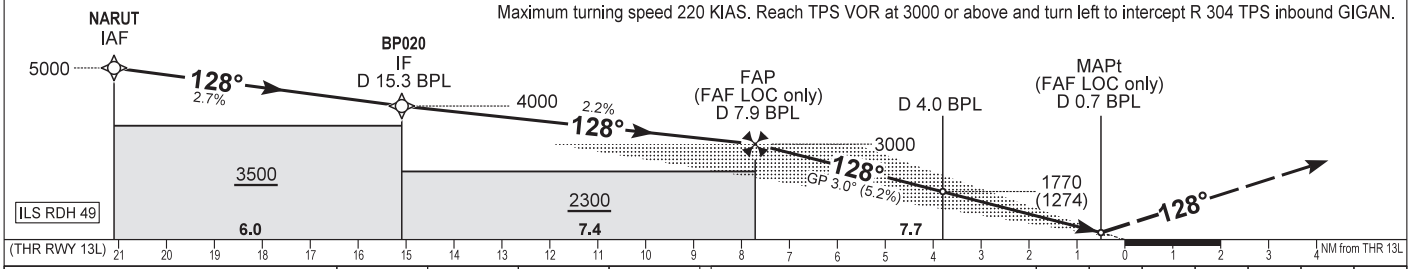
AERODROME ELEV 496
HEIGHTS RELATED TO THR RWY 13L - ELEV 496

| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| BUDAPEST TOWER | 118.100 | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST INFORMATION (NORTH) | | ATIS | 132.380 (117.300) 119.350 |




TRANSITION ALTITUDE
10000

MISSED APPROACH (RNAV)
Climb 4000 and continue on RWY track 128°. Cross BP017 (fly-by) waypoint at 1900 or above and turn left to track 017° inbound TPS.
Maximum turning speed 220 KIAS. From TPS proceed to GIGAN on track 304°.
MISSED APPROACH (CONVENTIONAL)
Climb 4000 and continue on R 128 BUD outbound. Cross D 7.0 BUD at 1900 or above and turn left direct to TPS VOR.
Maximum turning speed 220 KIAS. Reach TPS VOR at 3000 or above and turn left to intercept R 304 TPS inbound GIGAN.




| CAT OF ACFT | | | A | B | C | D |
|---|---|---|---|---|---|---|
| OCA (H) STRAIGHT-IN | CAT I | 2.5% macg | 955 (459) | 964 (468) | 974 (478) | 984 (488) |
| | | 4.0% macg | 657 (161) | 669 (173) | 677 (181) | 687 (191) |
| | CAT II | 2.5% macg | 866 (370) | 882 (386) | 896 (400) | 909 (413) |
| | | 4.0% macg | 566 (70) | 579 (83) | 589 (93) | 599 (103) |
| | LOC | 2.5% macg | 950 (454) | 980 (484) | 1000 (504) | 1020 (524) |
| | | 3.8% macg | 860 (364) | | | 880 (384) |
| CIRCLING | | | 980 | 1190 | 1310 | 1510 |

| DME BPL | NM | 7.0 | 6.0 | 5.0 | 4.0 | 3.0 | 2.0 |
|---|---|---|---|---|---|---|---|
| DIST THR / RWY 13L | NM | 6.8 | 5.8 | 4.8 | 3.8 | 2.8 | 1.8 |
| ALTITUDE | ft | 2730 | 2410 | 2090 | 1770 | 1460 | 1140 |

Timing not authorised for defining the MAPt.

| GS | kt | 80 | 100 | 120 | 140 | 160 | 180 |
|---|---|---|---|---|---|---|---|
| FAP/FAF - THR 13L (7.7 NM) | min:sec | 5:47 | 4:38 | 3:52 | 3:19 | 2:54 | 2:35 |
| Rate of descent (324.8 ft/NM) | ft/min | 430 | 540 | 640 | 750 | 860 | 970 |

# AD 2 LHBP INSTRUMENT APPROACH CHART ILS OR LOC RWY 13L

| SEQ | P&T | Name | Latitude | Longitude | FlyOver | Bearing/ (Len\|Dur) | Turn Direction | Altitude (FT) | IAS (KT) | VPA/RDH (FT) | RNP (NM) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 010 | IF | GIGAN(IAF) | N47 41 17.3 | E019 04 58.0 | N | ... | ... | +5000 | -250 | ... | ... |
| 020 | TF | BP020(IF) | N47 36 51.5 | E018 58 59.1 | N | 222 T/6.00 NM | ... | +4000 | ... | -1.6° | ... |
| 010 | IF | KESID(IAF) | N47 31 47.2 | E018 52 10.0 | N | ... | ... | +5000 | -250 | ... | ... |
| 020 | TF | BP020(IF) | N47 36 51.5 | E018 58 59.1 | N | 042 T/6.86 NM | ... | +4000 | ... | -1.4° | ... |
| 010 | IF | NARUT(IAF) | N47 40 52.8 | E018 52 24.1 | N | ... | ... | +5000 | -250 | ... | ... |
| 020 | TF | BP020(IF) | N47 36 51.5 | E018 58 59.1 | N | 132 T/6.00 NM | ... | +4000 | ... | -1.6° | ... |
| 010 | IF | BP020(IF) | N47 36 51.5 | E018 58 59.1 | N | ... | ... | +4000 | ... | ... | ... |
| 020 | CF | BP019(FAP) | N47 31 54.7 | E019 07 02.8 | N | 132 T/7.37 NM | ... | @3000 | ... | -1.3° | ... |
| 030 | CF | RW13L(LTP/FTP) | N47 26 43.5 | E019 15 27.2 | Y | 132 T/7.71 NM | ... | +545 | ... | -3.0°/15 | ... |
| 010 | IF | MAPt (LOC only) | N47 27 04.7 | E019 14 53.0 | Y | ... | ... | +860 | ... | ... | ... |
| 020 | TF | BP017 | N47 22 18.6 | E019 22 34.5 | N | 132 T/6.55 NM | ... | +1900 | ... | 2.3° | ... |
| 030 | TF | TPS | N47 29 35.7 | E019 26 46.4 | N | 021 T/7.83 NM | L | +3000 | -220 | 1.0° | ... |
| 040 | TF | GIGAN | N47 41 17.3 | E019 04 58.0 | Y | 308 T/18.83 NM | L | @4000 | ... | 0.5° | ... |

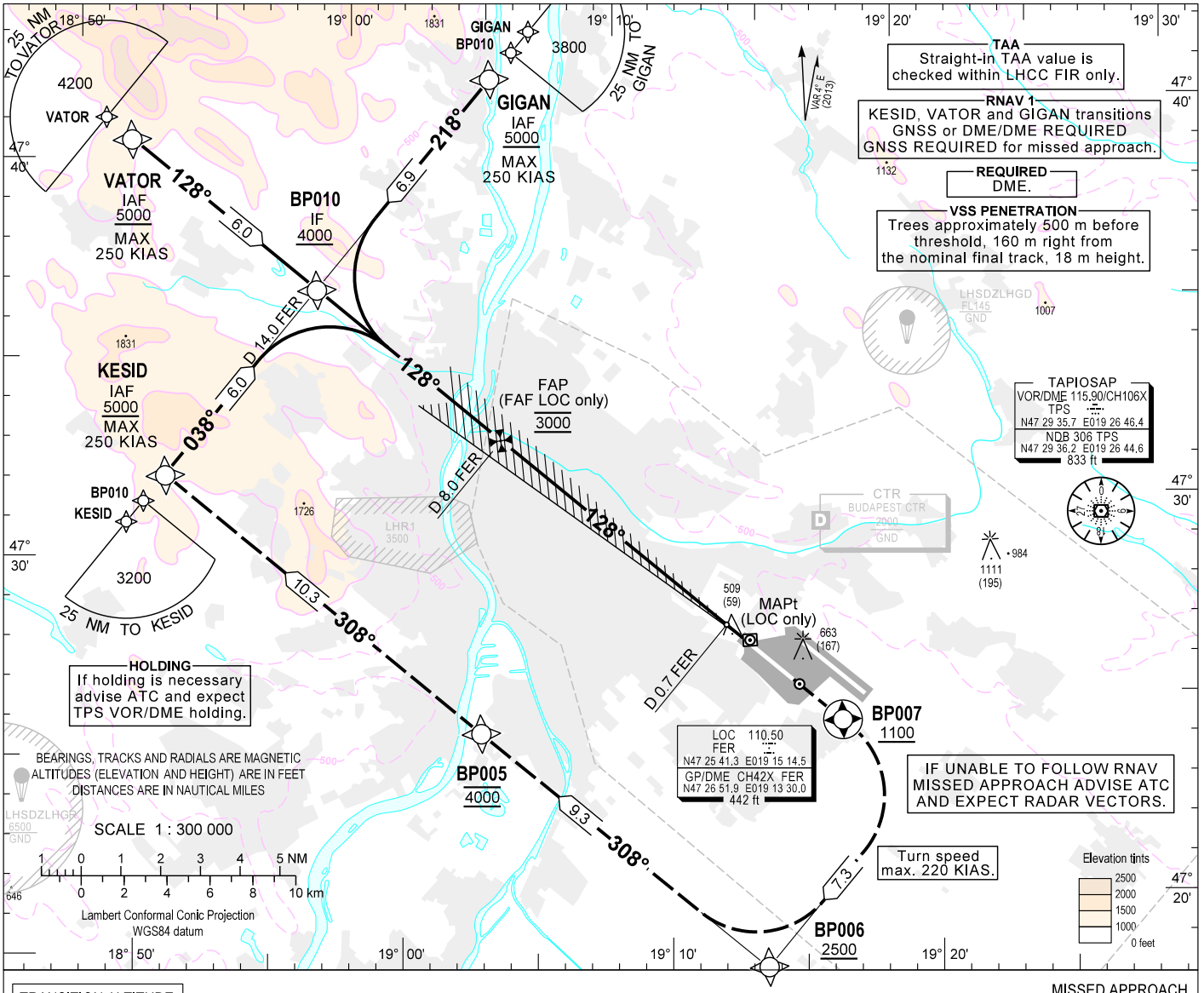
Final approach descent: 3.0°.
LOC only descent: 2.99°.

# INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 496
HEIGHTS RELATED TO THR RWY 13R - ELEV 448

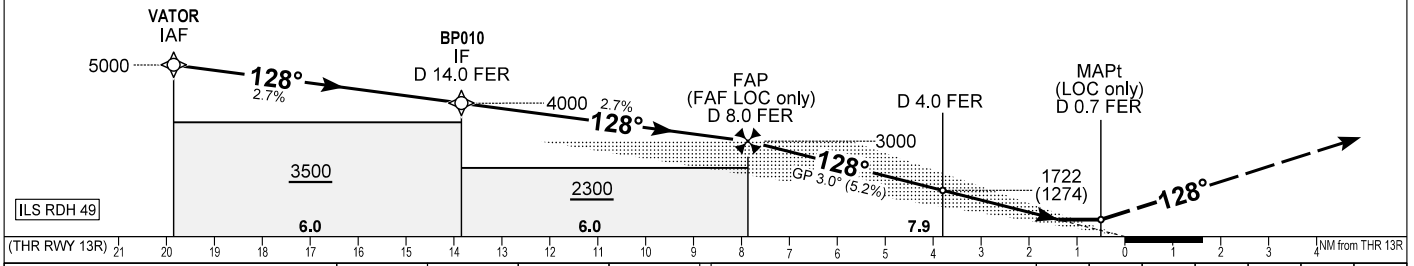
| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| | | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST TOWER | 118.100 | ATIS | 132.380 (117.300) |
| BUDAPEST INFORMATION (NORTH) | 119.350 | | |

# BUDAPEST/LISZT FERENC
## ILS or LOC RWY 13R
(ACFT CAT A, B, C, D)




TRANSITION ALTITUDE
10000

MISSED APPROACH
Cross BP007 at 1100 or above then turn right inbound BP006.
Maximum turning speed 220 KIAS.
Cross BP006 at 2500 or above and turn right to track 308° inbound KESID.
Reach 4000 by BP005.




| CAT OF ACFT | | | A | B | C | D |
|---|---|---|---|---|---|---|
| OCA (H) STRAIGHT-IN | CAT I | 2.5% macg | 958 (510) | 967 (519) | 977 (529) | 987 (539) |
| | | 3.4% macg | 635 (187) | 647 (199) | 655 (207) | 665 (217) |
| | CAT II | 2.5% macg | 869 (421) | 885 (437) | 898 (450) | 912 (464) |
| | | 3.6% macg | 530 (82) | 547 (99) | 559 (111) | 574 (126) |
| | LOC | 2.5% macg | 1220 (772) | 1250 (802) | 1270 (822) | 1290 (842) |
| | | 3.2% macg | 940 (492) | | | |
| CIRCLING | | | 980 | 1190 | 1310 | 1510 |

NOTE: CAT IIIB APPROVED

| DME FER | NM | 7.0 | 6.0 | 5.0 | 4.0 | 3.0 | 2.0 |
|---|---|---|---|---|---|---|---|
| DIST THR / RWY 13R | NM | 6.8 | 5.8 | 4.8 | 3.8 | 2.8 | 1.8 |
| ALTITUDE | ft | 2680 | 2360 | 2050 | 1730 | 1410 | 1090 |

Timing not authorised for defining the MAPt.

| GS | kt | 80 | 100 | 120 | 140 | 160 | 180 |
|---|---|---|---|---|---|---|---|
| FAP/FAF - THR 13R (7.9 NM) | min:sec | 5:54 | 4:43 | 3:56 | 3:23 | 2:57 | 2:38 |
| Rate of descent (324.7 ft/NM) | ft/min | 430 | 540 | 640 | 750 | 860 | 970 |

# AD 2 LHBP INSTRUMENT APPROACH CHART ILS OR LOC RWY 13R

| SEQ | P&T | Name | Latitude | Longitude | FlyOver | Bearing/ (Len\|Dur) | Turn Direction | Altitude (FT) | IAS (KT) | VPA/RDH (FT) | RNP (NM) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 010 | IF | KESID(IAF) | N47 31 47.2 | E018 52 10.0 | N | ... | ... | +5000 | -250 | ... | ... |
| 020 | TF | BP010(IF) | N47 36 13.8 | E018 58 09.0 | N | 042 T/6.01 NM | ... | +4000 | ... | -1.6° | ... |
| 010 | IF | GIGAN(IAF) | N47 41 17.3 | E019 04 58.0 | N | ... | ... | +5000 | -250 | ... | ... |
| 020 | TF | BP010(IF) | N47 36 13.8 | E018 58 09.0 | N | 222 T/6.85 NM | ... | +4000 | ... | -1.4° | ... |
| 010 | IF | VATOR(IAF) | N47 40 15.8 | E018 51 35.1 | N | ... | ... | +5000 | -250 | ... | ... |
| 020 | TF | BP010(IF) | N47 36 13.8 | E018 58 09.0 | N | 132 T/6.00 NM | ... | +4000 | ... | -1.6° | ... |
| 010 | IF | BP010(IF) | N47 36 13.8 | E018 58 09.0 | N | ... | ... | +4000 | ... | ... | ... |
| 020 | CF | BP009(FAP) | N47 32 12.4 | E019 04 40.2 | N | 132 T/5.97 NM | ... | @3000 | ... | -1.6° | ... |
| 030 | CF | RW13R(LTP/FTP) | N47 26 55.3 | E019 13 14.7 | Y | 132 T/7.86 NM | ... | +497 | ... | -3.0°/15 | ... |
| 010 | IF | MAPt (LOC only) | N47 27 16.7 | E019 12 40.1 | Y | ... | ... | +940 | ... | ... | ... |
| 020 | TF | BP007(TP) | N47 24 44.4 | E019 16 46.5 | Y | 132 T/3.24 NM | ... | +1100 | ... | 1.9° | ... |
| 030 | CF | BP006 | N47 18 37.5 | E019 13 32.8 | N | 222 T/7.34 NM | R | +2500 | -220 | 1.9° | ... |
| 040 | TF | BP005 | N47 24 52.2 | E019 03 22.1 | N | 312 T/9.32 NM | R | @4000 | -220 | 1.4° | ... |
| 050 | TF | KESID | N47 31 47.2 | E018 52 10.0 | Y | 312 T/10.28 NM | ... | @4000 | ... | 0.0° | ... |

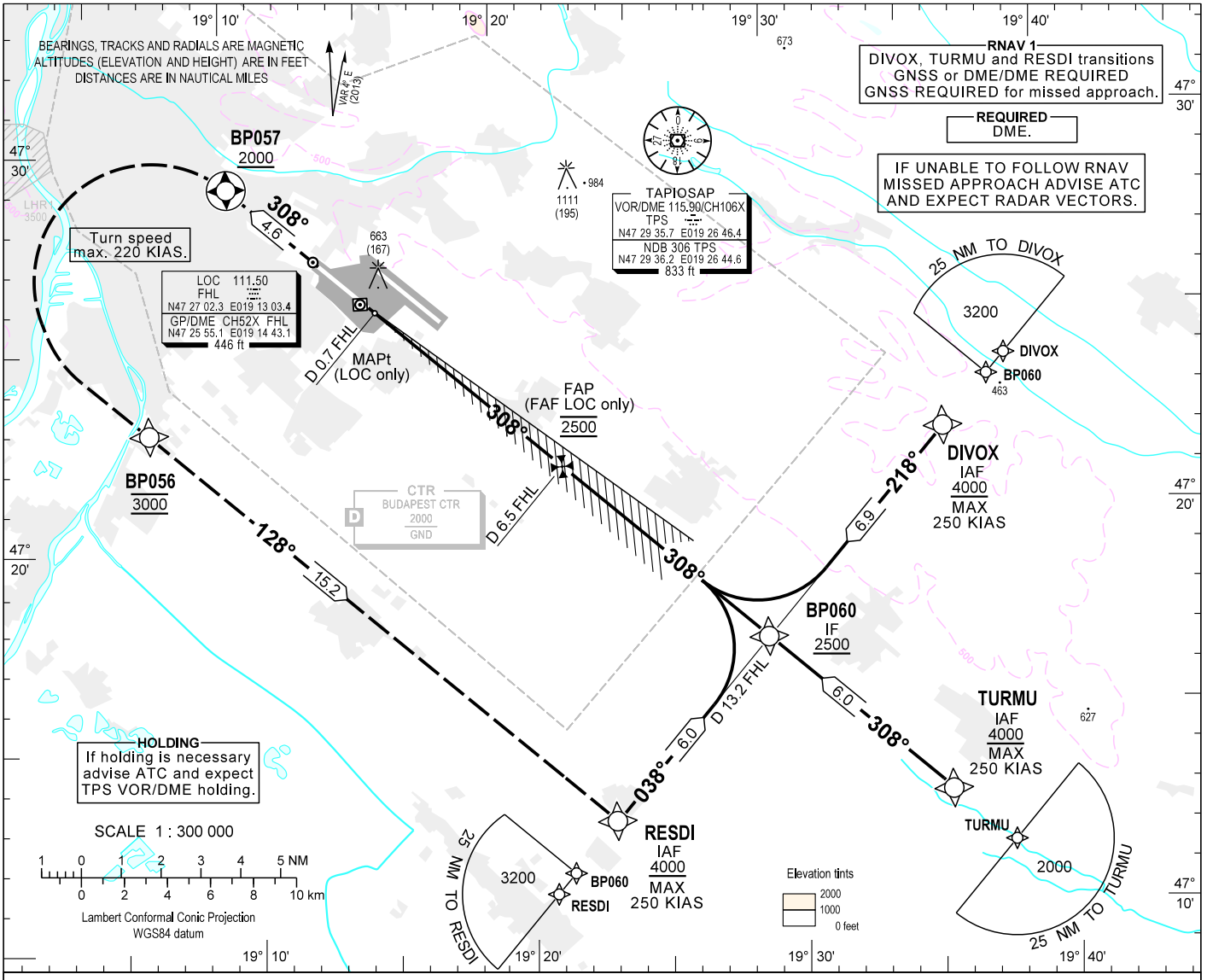
Final approach descent: 3.0°.
LOC only descent: 3.01°.

# INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 496
HEIGHTS RELATED TO THR RWY 31L - ELEV 448

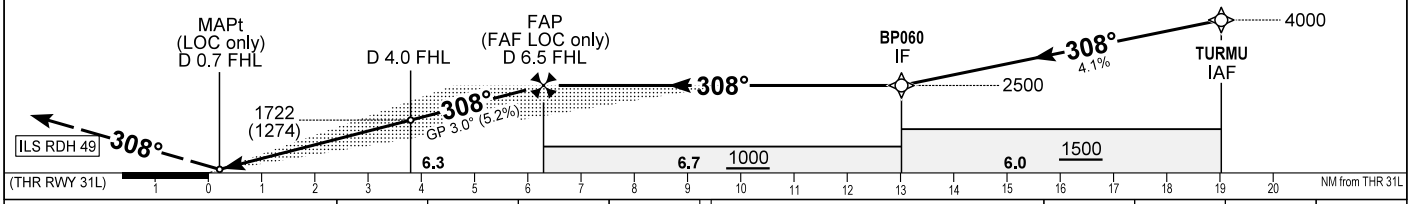
| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| | | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST TOWER | 118.100 | ATIS | 132.380 (117.300) |
| BUDAPEST INFORMATION (NORTH) | | | 119.350 |

# BUDAPEST/LISZT FERENC
## ILS or LOC RWY 31L
(ACFT CAT A, B, C, D)




MISSED APPROACH
Climb to 3000 on RWY track 308° . Cross BP057 at 2000 or above.
After crossing BP057 turn left to course 128° inbound BP056. Maximum turning speed: 220 KIAS.
Reach 3000 by BP056 and continue on track 128° to RESDI.

TRANSITION ALTITUDE
10000




| CAT OF ACFT | | | A | B | C | D |
|---|---|---|---|---|---|---|
| OCA (H) STRAIGHT-IN | CAT I | 2.5% macg | 1205 (757) | 1215 (767) | 1225 (777) | 1235 (787) |
| | | 4.0% macg | 1000 (552) | 1010 (562) | 1020 (572) | 1029 (581) |
| | | 4.7% macg | 895 (447) | 905 (457) | 915 (467) | 925(477) |
| | | 5.9% macg | 610 (162) | 622 (174) | 630 (182) | 641 (193) |
| | CAT II | 2.5% macg | 1116 (668) | 1133 (685) | 1145 (697) | 1159 (711) |
| | | 4.0% macg | 911 (463) | 928 (480) | 941 (493) | 954 (506) |
| | | 4.7% macg | 807 (359) | 823 (375) | 836 (388) | 850 (402) |
| | | 5.9% macg | 522 (74) | 539 (91) | 551 (103) | 565 (117) |
| | LOC | 2.5% macg | 1360 (912) | 1380 (932) | 1400 (952) | 1420 (972) |
| | | 4.7% macg | 840 (392) | 880 (432) | 920 (472) | |

| CAT OF ACFT | A | B | C | D |
|---|---|---|---|---|
| CIRCLING | 980 | 1190 | 1310 | 1510 |

| | | | | | | |
|---|---|---|---|---|---|---|
| DME FHL | NM | 6.0 | 5.0 | 4.0 | 3.0 | 2.0 |
| DIST THR / RWY 31L | NM | 5.8 | 4.8 | 3.8 | 2.8 | 1.8 |
| ALTITUDE | ft | 2360 | 2050 | 1730 | 1410 | 1090 |

Timing not authorised for defining the MAPt.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| GS | kt | 80 | 100 | 120 | 140 | 160 | 180 |
| FAP/FAF - THR 31L (6.3 NM) | min:sec | 4:43 | 3:47 | 3:09 | 2:42 | 2:22 | 2:06 |
| Rate of descent (326.2 ft/NM) | ft/min | 430 | 540 | 650 | 760 | 860 | 970 |

# AD 2 LHBP INSTRUMENT APPROACH CHART ILS OR LOC RWY 31L

| SEQ | P&T | Name | Latitude | Longitude | FlyOver | Bearing/ (Len\|Dur) | Turn Direction | Altitude (FT) | IAS (KT) | VPA/RDH (FT) | RNP (NM) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 010 | IF | RESDI(IAF) | N47 12 38.0 | E019 23 11.1 | N | ... | ... | +4000 | -250 | ... | ... |
| 020 | TF | BP060(IF) | N47 17 03.4 | E019 29 08.0 | N | 42 T/6.00 NM | ... | +2500 | ... | -2.4° | ... |
| 010 | IF | DIVOX(IAF) | N47 22 06.5 | E019 35 57.5 | N | ... | ... | +4000 | -250 | ... | ... |
| 020 | TF | BP060(IF) | N47 17 03.4 | E019 29 08.0 | N | 222 T/6.86 NM | ... | +2500 | ... | -2.1° | ... |
| 010 | IF | TURMU(IAF) | N47 13 00.0 | E019 35 37.3 | N | ... | ... | +4000 | -250 | ... | ... |
| 020 | TF | BP060(IF) | N47 17 03.4 | E019 29 08.0 | N | 312 T/6.00 NM | ... | +2500 | ... | -2.4° | ... |
| 010 | IF | BP060(IF) | N47 17 03.4 | E019 29 08.0 | N | ... | ... | +2500 | ... | ... | ... |
| 020 | CF | BP059(FAP) | N47 21 35.4 | E019 21 51.1 | N | 312 T/6.72 NM | ... | @2500 | ... | -0.0° | ... |
| 030 | CF | RW31L(LTP/FTP) | N47 25 49.7 | E019 15 00.9 | Y | 312 T/6.29 NM | ... | +497 | ... | -3.0°/15 | ... |
| 010 | IF | MAPt (LOC only) | N47 25 30.0 | E019 15 32.7 | Y | ... | ... | +840 | ... | ... | ... |
| 020 | TF | BP057 | N47 28 56.5 | E019 09 58.6 | Y | 312 T/4.62 NM | ... | +2000 | ... | 3.3° | ... |
| 030 | CF | BP056 | N47 22 52.0 | E019 06 41.0 | N | 132 T/11.74 NM | L | @3000 | -220 | 0.8° | ... |
| 040 | TF | RESDI | N47 12 38.0 | E019 23 11.1 | Y | 132 T/15.20 NM | ... | @3000 | ... | 0.0° | ... |

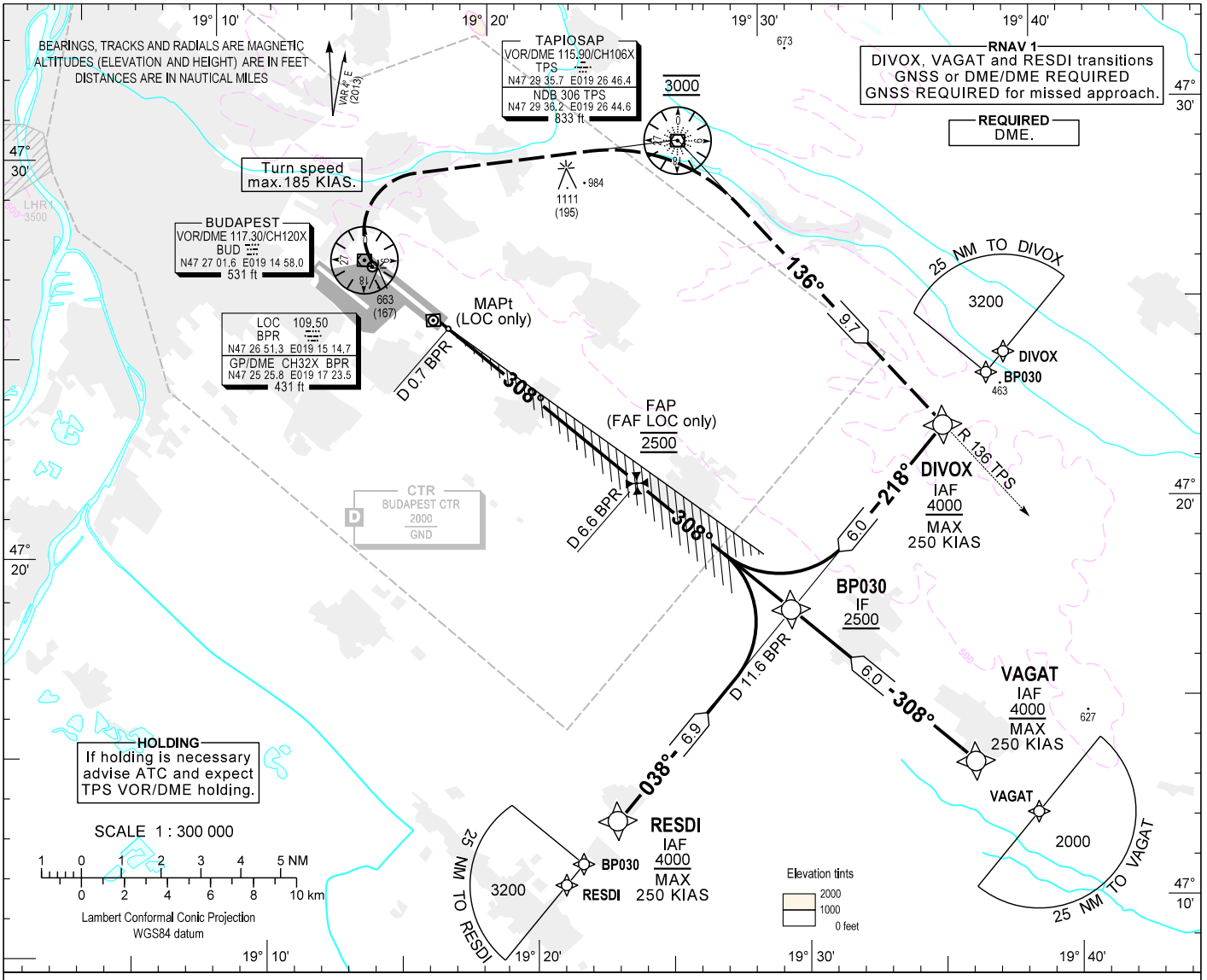
Final approach descent: 3.0°.
LOC only descent: 2.97°.

# BUDAPEST/LISZT FERENC
## ILS or LOC RWY 31R
(ACFT CAT A, B, C, D)

INSTRUMENT APPROACH CHART - ICAO

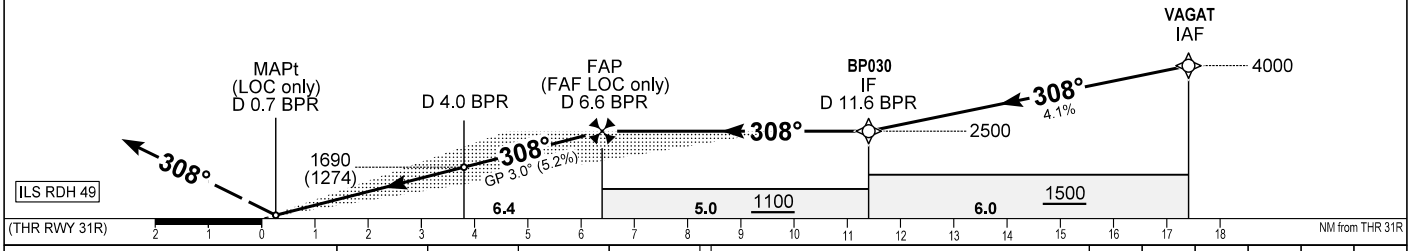
AERODROME ELEV 496
HEIGHTS RELATED TO THR RWY 31R - ELEV 416

| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| | | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST TOWER | 118.100 | ATIS | 132.380 (117.300) |
| BUDAPEST INFORMATION (NORTH) | | | 119.350 |




MISSED APPROACH (RNAV)
Climb to 3000 on RWY track 308°. When passing 900 turn right to TPS.
Maximum turning speed 185 KIAS. At TPS (fly-by) turn right to track 136° inbound DIVOX.
MISSED APPROACH (CONVENTIONAL)
Climb to 3000 on R 128 BUD inbound BUD VOR. When passing 900 turn right to TPS VOR.
Maximum turning speed 185 KIAS. Reach TPS VOR at 3000 and turn right to intercept R 136 TPS inbound DIVOX.

TRANSITION ALTITUDE
10000




| CAT OF ACFT | | | A | B | C | D |
|---|---|---|---|---|---|---|
| OCA (H) STRAIGHT-IN | CAT I | 2.5% macg | 1169 (753) | 1179 (763) | 1189 (773) | 1199 (783) |
| | | 3.6% macg | 596 (180) | 609 (193) | 617 (201) | 627 (211) |
| | CAT II | 2.5% macg | 1080 (664) | 1097 (681) | 1110 (694) | 1123 (707) |
| | | 3.6% macg | 514 (98) | 532 (116) | 544 (128) | 558 (142) |
| | LOC | 2.5% macg | 1430 (1014) | 1450 (1034) | 1480 (1064) | 1490 (1074) |
| | | 3.6% macg | 760 (344) | | | |
| CIRCLING | | | 980 | 1190 | 1310 | 1510 |

NOTE: CAT IIIB APPROVED

| DME BPR | NM | 6.0 | 5.0 | 4.0 | 3.0 | 2.0 |
|---|---|---|---|---|---|---|
| DIST THR / RWY 31R | NM | 5.8 | 4.8 | 3.8 | 2.8 | 1.8 |
| ALTITUDE | ft | 2330 | 2010 | 1690 | 1380 | 1060 |

Timing not authorised for defining the MAPt.

| GS | kt | 80 | 100 | 120 | 140 | 160 | 180 |
|---|---|---|---|---|---|---|---|
| FAP/FAF - THR 31R (6.4 NM) | min:sec | 4:48 | 3:51 | 3:12 | 2:45 | 2:24 | 2:08 |
| Rate of descent (326.1 ft/NM) | ft/min | 430 | 540 | 650 | 760 | 860 | 970 |

# AD 2 LHBP INSTRUMENT APPROACH CHART ILS OR LOC RWY 31R

| SEQ | P&T | Name | Latitude | Longitude | FlyOver | Bearing/ (Len\|Dur) | Turn Direction | Altitude (FT) | IAS (KT) | VPA/RDH (FT) | RNP (NM) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 010 | IF | DIVOX(IAF) | N47 22 06.5 | E019 35 57.5 | N | ... | ... | +4000 | -250 | ... | ... |
| 020 | TF | BP030(IF) | N47 17 41.5 | E019 29 59.5 | N | 222 T/6.00 NM | ... | +2500 | ... | -2.4° | ... |
| 010 | IF | RESDI(IAF) | N47 12 38.0 | E019 23 11.1 | N | ... | ... | +4000 | -250 | ... | ... |
| 020 | TF | BP030(IF) | N47 17 41.5 | E019 29 59.5 | N | 042 T/6.86 NM | ... | +2500 | ... | -2.1° | ... |
| 010 | IF | VAGAT(IAF) | N47 13 38.1 | E019 36 28.7 | N | ... | ... | +4000 | -250 | ... | ... |
| 020 | TF | BP030(IF) | N47 17 41.5 | E019 29 59.5 | N | 312 T/6.00 NM | ... | +2500 | ... | -2.4° | ... |
| 010 | IF | BP030(IF) | N47 17 41.5 | E019 29 59.5 | N | ... | ... | +2500 | ... | ... | ... |
| 020 | CF | BP029(FAP) | N47 21 04.1 | E019 24 34.4 | Y | 312 T/5.00 NM | ... | @2500 | ... | -0.0° | ... |
| 030 | CF | RW31R(LTP/FTP) | N47 25 22.6 | E019 17 37.9 | Y | 312 T/6.39 NM | ... | +465 | ... | -3.0°/15 | ... |
| 010 | IF | MAPt (LOC only) | N47 25 00.8 | E019 18 13.1 | N | ... | ... | +770 | ... | ... | ... |
| 020 | CA | ... | ... | ... | N | 312 T/1.76 NM | ... | +900 | ... | 2.1° | ... |
| 030 | DF | TPS | N47 29 35.7 | E019 26 46.4 | N | ... | R | @3000 | -185 | 2.0° | ... |
| 040 | TF | DIVOX | N47 22 06.5 | E019 35 57.5 | N | 140 T/9.75 NM | R | @3000 | ... | 0.0° | ... |

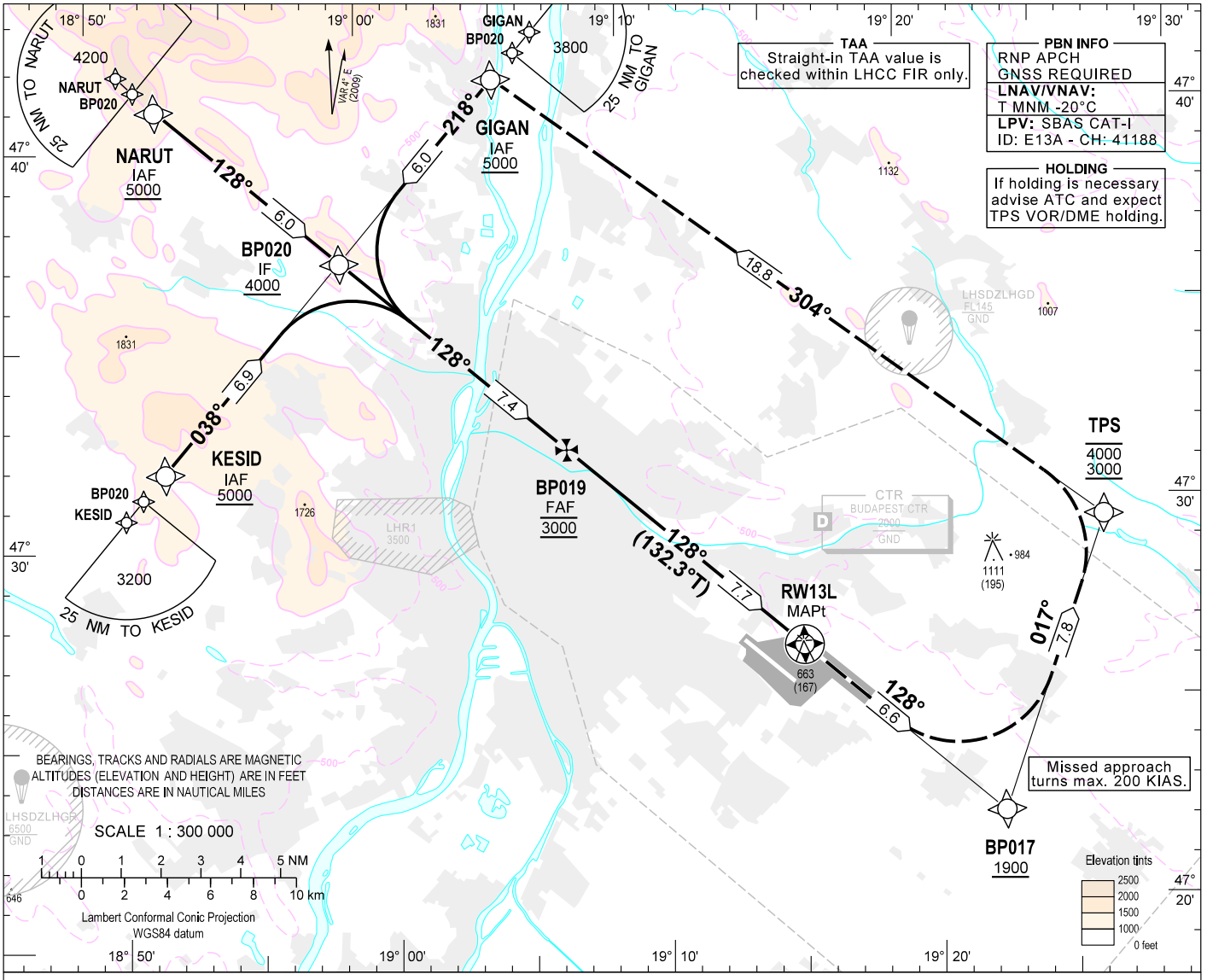
Final approach descent: 3.0°
LOC only descent: : 2.97°

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 496
HEIGHTS RELATED TO THR RWY 13L - ELEV 496

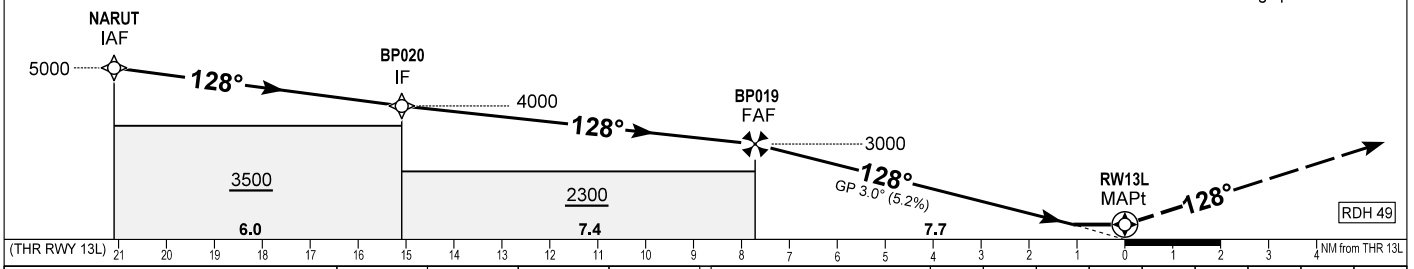
| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| | | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST TOWER | 118.100 | ATIS | 132.380 (117.300) |
| BUDAPEST INFORMATION (NORTH) | 119.350 | | |

# BUDAPEST/LISZT FERENC
RNAV(GNSS) RWY 13L
(ACFT CAT A, B, C, D)




TRANSITION ALTITUDE
10000

MISSED APPROACH
Climb to BP017 at or above 1900.
Turn left to TPS at or above 3000.
Then turn left to GIGAN at 4000.
Maximum turning speed 200 KIAS.




| CAT OF ACFT | | | A | B | C | D |
|---|---|---|---|---|---|---|
| OCA (H) STRAIGHT-IN | LNAV | 2.5% macg | 860 (356) | 870 (372) | 900 (396) | 910 (413) |
| | LNAV/VNAV | 2.5% macg | 767 (271) | 777 (281) | 798 (302) | 824 (328) |
| | LPV | 2.5% macg | 767 (271) | 777 (281) | 786 (290) | 796 (300) |
| | | 4.0% macg | 656 (160) | 666 (170) | 676 (180) | 686 (190) |
| CIRCLING | | | 970 | 1190 | 1310 | 1510 |

| DIST THR / RW13L | NM | 7.0 | 6.0 | 5.0 | 4.0 | 3.0 | 2.0 | 1.0 | 0.0 |
|---|---|---|---|---|---|---|---|---|---|
| ALTITUDE | ft | 2770 | 2460 | 2140 | 1820 | 1500 | 1180 | 860 | 546 |
| GS | kt | 80 | 100 | 120 | 140 | 160 | 180 | | |
| BP019 - RW13L (7.7 NM) Timing not authorised for defining the MAPt. | min:sec | 5:47 | 4:37 | 3:51 | 3:18 | 2:53 | 2:34 | | |
| Rate of descent (318 ft/NM) | ft/min | 420 | 530 | 640 | 740 | 850 | 960 | | |

# AD 2 LHBP INSTRUMENT APPROACH CHART RNAV(GNSS) RWY 13L

**via NARUT**

| PT | WP ID | OverFly | Fix role | TD | VAR | CRS Val (°) | CRS Type | TIME (s) | DIST (NM) | MNM ALT (ft) | MAX ALT (ft) | IAS MAX (kt) | VRT ANG | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IF | NARUT | | IAF | | 4.5 | | | | | 5000 | | | | RNP APCH |
| TF | BP020 | | IF | | 4.5 | 132.1 | TT | | 6.0 | 4000 | | | | RNP APCH |
| TF | BP019 | | FAF | | 4.5 | 132.2 | TT | | 7.4 | 3000 | 3000 | | | RNP APCH |
| TF | RW13L | Y | MAPt | | 4.5 | 132.3 | TT | | 7.7 | 546 | | | -3.0 | RNP APCH |
| TF | BP017 | | MATF | | 4.5 | 132.4 | TT | | 6.6 | 1900 | | 200 | | RNP APCH |
| TF | TPS | | MATF | | 4.5 | 021.3 | TT | | 7.8 | 3000 | 4000 | 200 | | RNP APCH |
| TF | GIGAN | | | | 4.5 | 308.5 | TT | | 18.8 | 4000 | 4000 | 200 | | RNP APCH |

**via GIGAN**

| PT | WP ID | OverFly | Fix role | TD | VAR | CRS Val (°) | CRS Type | TIME (s) | DIST (NM) | MNM ALT (ft) | MAX ALT (ft) | IAS MAX (kt) | VRT ANG | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IF | GIGAN | | IAF | | 4.5 | | | | | 5000 | | | | RNP APCH |
| TF | BP020 | | IF | | 4.5 | 222.4 | TT | | 6.0 | 4000 | | | | RNP APCH |
| TF | BP019 | | FAF | | 4.5 | 132.2 | TT | | 7.4 | 3000 | 3000 | | | RNP APCH |
| TF | RW13L | Y | MAPt | | 4.5 | 132.3 | TT | | 7.7 | 546 | | | -3.0 | RNP APCH |
| TF | BP017 | | MATF | | 4.5 | 132.4 | TT | | 6.6 | 1900 | | 200 | | RNP APCH |
| TF | TPS | | MATF | | 4.5 | 021.3 | TT | | 7.8 | 3000 | 4000 | 200 | | RNP APCH |
| TF | GIGAN | | | | 4.5 | 308.5 | TT | | 18.8 | 4000 | 4000 | 200 | | RNP APCH |

**vIa KESID**

| PT | WP ID | OverFly | Fix role | TD | VAR | CRS Val (°) | CRS Type | TIME (s) | DIST (NM) | MNM ALT (ft) | MAX ALT (ft) | IAS MAX (kt) | VRT ANG | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IF | KESID | | IAF | | 4.5 | | | | | 5000 | | | | RNP APCH |
| TF | BP020 | | IF | | 4.5 | 042.3 | TT | | 6.9 | 4000 | | | | RNP APCH |
| TF | BP019 | | FAF | | 4.5 | 132.2 | TT | | 7.4 | 3000 | 3000 | | | RNP APCH |
| TF | RW13L | Y | MAPt | | 4.5 | 132.3 | TT | | 7.7 | 546 | | | -3.0 | RNP APCH |
| TF | BP017 | | MATF | | 4.5 | 132.4 | TT | | 6.6 | 1900 | | 200 | | RNP APCH |
| TF | TPS | | MATF | | 4.5 | 021.3 | TT | | 7.8 | 3000 | 4000 | 200 | | RNP APCH |
| TF | GIGAN | | | | 4.5 | 308.5 | TT | | 18.8 | 4000 | 4000 | 200 | | RNP APCH |

**SBAS FAS Data Block Coding Data**

| FAS-DB (CRC wrapped data) | |
|---|---|
| Operation type | 0 |
| SBAS provider ID | 1 |
| Airport identifier | LHBP |
| RWY | 13L |
| Approach performance designator | 0 |
| Route indicator | |
| Reference path data selector | 0 |
| Reference path identifier | E13A |
| LTP/FTP latitude | 472643.5200N |
| LTP/FTP longitude | 0191527.1800E |
| LTP/FTP ellipsoidal height (m) | 194.8 |
| FPAP latitude | 472521.7545N |
| FPAP longitude | 0191739.2775E |
| Threshold crossing height (TCH) | 15 |
| TCH units | 1 |
| Glide path angle (degrees) | 3.00 |
| Course width at threshold (m) | 105.00 |
| Length offset (m) | 40 |
| Horizontal alert limit (m) | 40.0 |
| Vertical alert limit (m) | 35.0 |
| Computed Data Block | 10 10 02 08 0C CD 00 00 01 33 31 05 80 82 5C 14 98 B2 43 08 9C 1B 35 81 FD 03 08 04 2C 81 2C 01 64 05 C8 AF 36 F8 33 69 |
| Computed CRC | 36F83369 |
| **FAS-DB (not CRC wrapped)** | |
| ICAO code | LH |
| LTP/FTP Orthometric height (m) | 151.3 |
| FPAP Orhtometric height (m) | 151.3 |

**WAYPOINT COORDINATES**

| WP ID | Latitude | Longitude |
|---|---|---|
| NARUT | N47 40 52.8 | E018 52 24.1 |
| GIGAN | N47 41 17.3 | E019 04 58.0 |
| KESID | N47 31 47.2 | E018 52 10.0 |
| BP020 | N47 36 51.5 | E018 58 59.1 |
| BP019 | N47 31 54.7 | E019 07 02.8 |
| RW13L | N47 26 43.52 | E019 15 27.18 |
| BP017 | N47 22 18.6 | E019 22 34.5 |
| TPS | N47 29 35.7 | E019 26 46.4 |

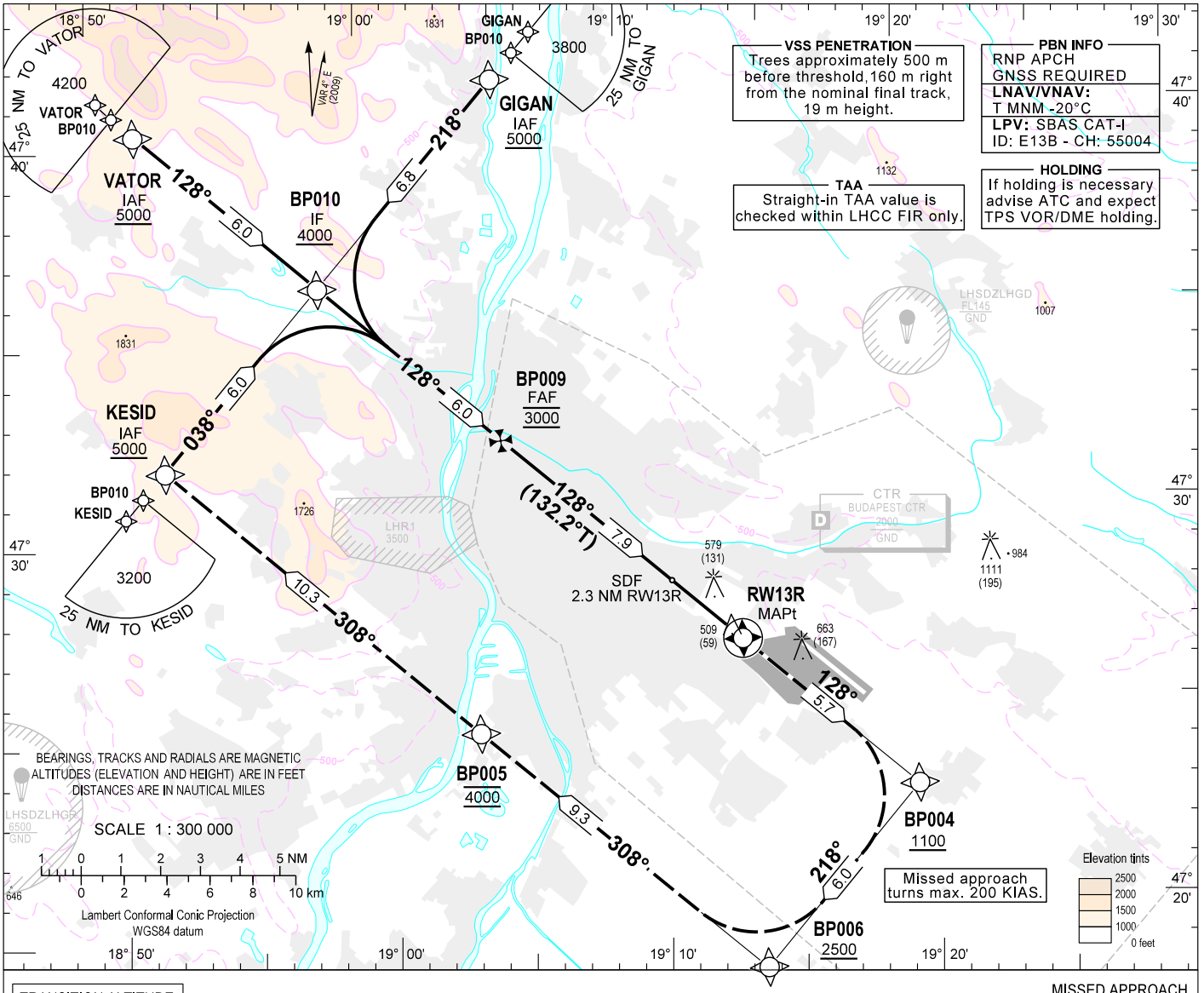
# BUDAPEST/LISZT FERENC

INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 496
HEIGHTS RELATED TO THR RWY 13R - ELEV 448

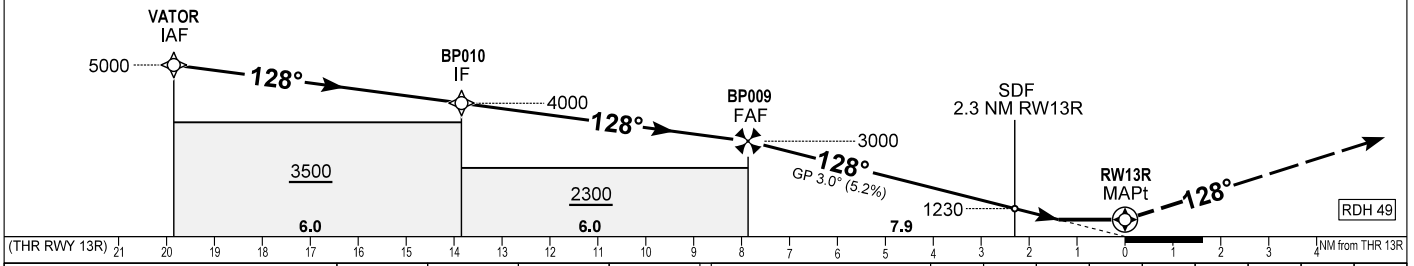
| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| | | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST TOWER | 118.100 | ATIS | 132.380 (117.300) |
| BUDAPEST INFORMATION (NORTH) | 119.350 | | |

RNAV (GNSS) RWY 13R
(ACFT CAT A, B, C, D)




TRANSITION ALTITUDE
10000

MISSED APPROACH
Climb to BP004 at or above 1100.
Turn right to BP006 at or above 2500.
Turn right to BP005 at 4000 and continue to KESID at 4000.
Maximum turning speed 200 KIAS.




| CAT OF ACFT | | | A | B | C | D |
|---|---|---|---|---|---|---|
| OCA (H) STRAIGHT-IN | LNAV | 2.5% macg | 900 (446) | 920 (468) | 940 (491) | 960 (511) |
| | | 4.0% macg | 830 (377) | | | |
| | LNAV/VNAV | 2.5% macg | 848 (400) | 857 (409) | 878 (430) | 905 (457) |
| | | 4.0% macg | 710 (262) | 720 (272) | 730 (282) | 740 (292) |
| | LPV | 2.5% macg | 848 (400) | 857 (409) | 867 (419) | 877 (429) |
| | | 4.0% macg | 633 (185) | 642 (194) | 652 (204) | 662 (214) |
| CIRCLING | | | 970 | 1190 | 1310 | 1510 |

| DIST THR / RW13R | NM | 7.0 | 6.0 | 5.0 | 4.0 | 3.0 | 2.0 | 1.0 | 0.0 |
|---|---|---|---|---|---|---|---|---|---|
| ALTITUDE | ft | 2730 | 2410 | 2090 | 1770 | 1450 | 1130 | 820 | 497 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| GS | kt | 80 | 100 | 120 | 140 | 160 | 180 | |
| BP009 - RW13R (7.9 NM) Timing not authorised for defining the MAPt. | mln:sec | 5:54 | 4:43 | 3:56 | 3:22 | 2:57 | 2:37 | |
| Rate of descent (318 ft/NM) | ft/min | 420 | 530 | 640 | 740 | 850 | 960 | |

# AD 2 LHBP INSTRUMENT APPROACH CHART RNAV(GNSS) RWY 13R

**via VATOR**

| PT | WP ID | OverFly | Fix role | TD | VAR | CRS Val (°) | CRS Type | TIME (s) | DIST (NM) | MNM ALT (ft) | MAX ALT (ft) | IAS MAX (kt) | VRT ANG | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IF | VATOR | | IAF | | 4.5 | | | | | 5000 | | | | RNP APCH |
| TF | BP010 | | IF | | 4.5 | 132.2 | TT | | 6.0 | 4000 | | | | RNP APCH |
| TF | BP009 | | FAF | | 4.5 | 132.3 | TT | | 6.0 | 3000 | 3000 | | | RNP APCH |
| TF | RW13R | Y | MAPt | | 4.5 | 132.2 | TT | | 7.9 | 497 | | | -3.0 | RNP APCH |
| TF | BP004 | | MATF | | 4.5 | 132.3 | TT | | 5.7 | 1100 | | 200 | | RNP APCH |
| TF | BP006 | | MATF | | 4.5 | 222.4 | TT | | 6.0 | 2500 | | 200 | | RNP APCH |
| TF | BP005 | | | | 4.5 | 312.1 | TT | | 9.3 | 4000 | 4000 | 200 | | RNP APCH |
| TF | KESID | | | | 4.5 | 312.4 | TT | | 10.3 | 4000 | 4000 | | | RNP APCH |

**via GIGAN**

| PT | WP ID | OverFly | Fix role | TD | VAR | CRS Val (°) | CRS Type | TIME (s) | DIST (NM) | MNM ALT (ft) | MAX ALT (ft) | IAS MAX (kt) | VRT ANG | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IF | GIGAN | | IAF | | 4.5 | | | | | 5000 | | | | RNP APCH |
| TF | BP010 | | IF | | 4.5 | 222.4 | TT | | 6.8 | 4000 | | | | RNP APCH |
| TF | BP009 | | FAF | | 4.5 | 132.3 | TT | | 6.0 | 3000 | 3000 | | | RNP APCH |
| TF | RW13R | Y | MAPt | | 4.5 | 132.2 | TT | | 7.9 | 497 | | | -3.0 | RNP APCH |
| TF | BP004 | | MATF | | 4.5 | 132.3 | TT | | 5.7 | 1100 | | 200 | | RNP APCH |
| TF | BP006 | | MATF | | 4.5 | 222.4 | TT | | 6.0 | 2500 | | 200 | | RNP APCH |
| TF | BP005 | | | | 4.5 | 312.1 | TT | | 9.3 | 4000 | 4000 | 200 | | RNP APCH |
| TF | KESID | | | | 4.5 | 312.4 | TT | | 10.3 | 4000 | 4000 | | | RNP APCH |

**via KESID**

| PT | WP ID | OverFly | Fix role | TD | VAR | CRS Val (°) | CRS Type | TIME (s) | DIST (NM) | MNM ALT (ft) | MAX ALT (ft) | IAS MAX (kt) | VRT ANG | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IF | KESID | | IAF | | 4.5 | | | | | 5000 | | | | RNP APCH |
| TF | BP010 | | IF | | 4.5 | 042.3 | TT | | 6.0 | 4000 | | | | RNP APCH |
| TF | BP009 | | FAF | | 4.5 | 132.3 | TT | | 6.0 | 3000 | 3000 | | | RNP APCH |
| TF | RW13R | Y | MAPt | | 4.5 | 132.2 | TT | | 7.9 | 497 | | | -3.0 | RNP APCH |
| TF | BP004 | | MATF | | 4.5 | 132.3 | TT | | 5.7 | 1100 | | 200 | | RNP APCH |
| TF | BP006 | | MATF | | 4.5 | 222.4 | TT | | 6.0 | 2500 | | 200 | | RNP APCH |
| TF | BP005 | | | | 4.5 | 312.1 | TT | | 9.3 | 4000 | 4000 | 200 | | RNP APCH |
| TF | KESID | | | | 4.5 | 312.4 | TT | | 10.3 | 4000 | 4000 | | | RNP APCH |

**SBAS FAS Data Block Coding Data**

| FAS-DB (CRC wrapped data) | |
|---|---|
| Operation type | 0 |
| SBAS provider ID | 1 |
| Airport identifier | LHBP |
| RWY | 13R |
| Approach performance designator | 0 |
| Route indicator | |
| Reference path data selector | 0 |
| Reference path identifier | E13B |
| LTP/FTP latitude | 472655.3400N |
| LTP/FTP longitude | 0191314.7300E |
| LTP/FTP ellipsoidal height (m) | 180.2 |
| FPAP latitude | 472548.1575N |
| FPAP longitude | 0191503.4000E |
| Threshold crossing height (TCH) | 15 |
| TCH units | 1 |
| Glide path angle (degrees) | 3.00 |
| Course width at threshold (m) | 105.00 |
| Length offset (m) | 72 |
| Horizontal alert limit (m) | 40.0 |
| Vertical alert limit (m) | 35.0 |
| Computed Data Block | 10 10 02 08 0C 4D 00 00 02 33 31 05 D8 DE 5C 14 D4 A7 3F 08 0A 1B 23 F3 FD FC 50 03 2C 81 2C 01 64 09 C8 AF 5B 89 E8 EF |
| Computed CRC | 5B89E8EF |
| **FAS-DB (not CRC wrapped)** | |
| ICAO code | LH |
| LTP/FTP Orthometric height (m) | 136.6 |
| FPAP Orhtometric height (m) | 136.6 |

**WAYPOINT COORDINATES**

| WP ID | Latitude | Longitude |
|---|---|---|
| VATOR | N47 40 15.8 | E018 51 35.1 |
| GIGAN | N47 41 17.3 | E019 04 58.0 |
| KESID | N47 31 47.2 | E018 52 10.0 |
| BP010 | N47 36 13.8 | E018 58 09.0 |
| BP009 | N47 32 12.4 | E019 04 40.2 |
| RW13R | N47 26 55.34 | E019 13 14.73 |
| BP004 | N47 23 03.3 | E019 19 29.6 |
| BP006 | N47 18 37.5 | E019 13 32.8 |
| BP005 | N47 24 52.2 | E019 03 22.1 |

# BUDAPEST/LISZT FERENC

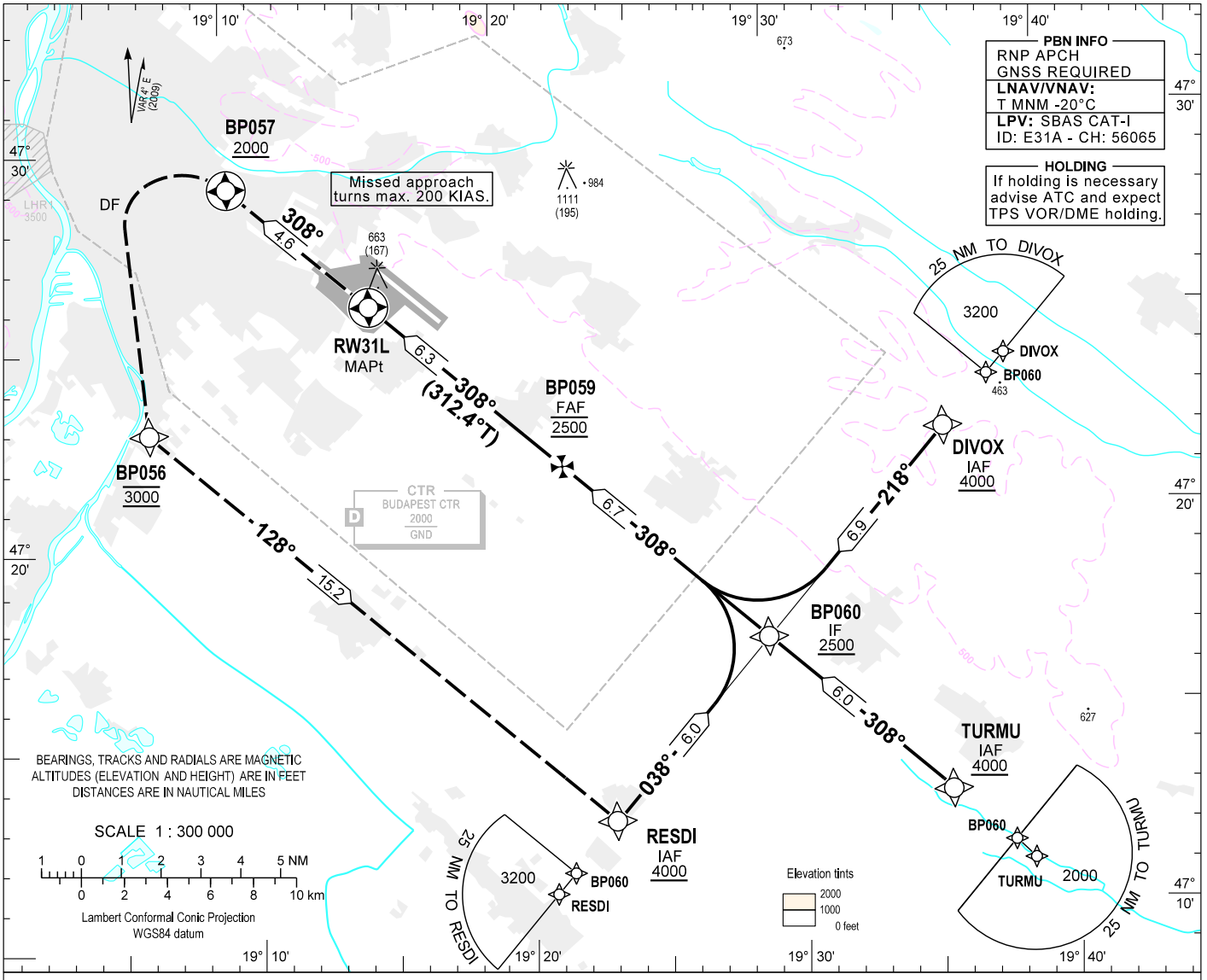
INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 496
HEIGHTS RELATED TO THR RWY 31L - ELEV 448

| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| BUDAPEST TOWER | 118.100 | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST INFORMATION (NORTH) | | ATIS | 132.380 (117.300) 119.350 |

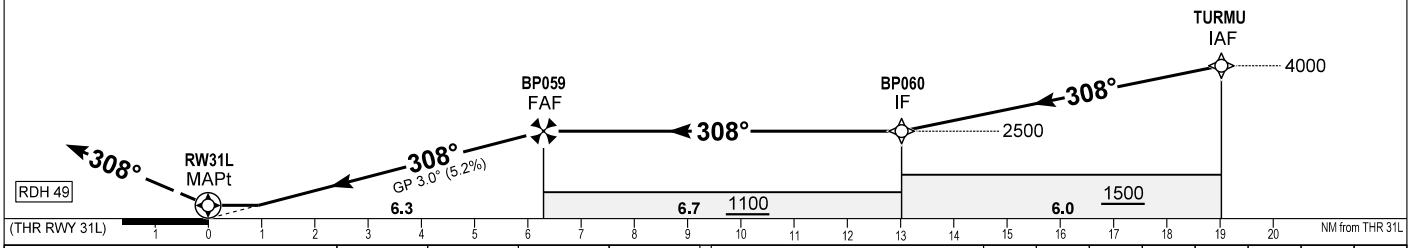
## RNAV(GNSS) RWY 31L

(ACFT CAT A, B, C, D)




MISSED APPROACH
Climb to BP057 at or above 2000.
At BP057 turn left direct to BP056 at 3000.
Then turn left and continue to RESDI at 3000.
Maximum turning speed: 200 KIAS.

TRANSITION ALTITUDE
10000




| CAT OF ACFT | | | A | B | C | D |
|---|---|---|---|---|---|---|
| OCA (H) STRAIGHT-IN | LNAV | 2.5% macg | 1050 (597) | 1070 (621) | 1100 (644) | 1120 (664) |
| | | 4.0% macg | 900 (450) | | | |
| | LNAV/VNAV | 2.5% macg | 951 (503) | 961 (513) | 982 (534) | 1008 (560) |
| | | 4.0% macg | 741 (293) | 750 (302) | 775 (327) | 806 (358) |
| | LPV | 2.5% macg | 951 (503) | 961 (513) | 971 (523) | 980 (532) |
| | | 4.0% macg | 608 (160) | 618 (170) | 628 (180) | 638 (190) |
| CIRCLING | | | 970 | 1190 | 1310 | 1510 |

| DIST THR / RW31L | NM | 6.0 | 5.0 | 4.0 | 3.0 | 2.0 | 1.0 | 0.0 |
|---|---|---|---|---|---|---|---|---|
| ALTITUDE | ft | 2410 | 2090 | 1770 | 1450 | 1130 | 820 | 497 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| GS | kt | 80 | 100 | 120 | 140 | 160 | 180 |
| BP059 - RW31L (6.3 NM) Timing not authorised for defining the MAPt. | min:sec | 4:43 | 3:46 | 3:09 | 2:42 | 2:22 | 2:06 |
| Rate of descent (318 ft/NM) | ft/min | 420 | 530 | 640 | 740 | 850 | 960 |

# AD 2 LHBP INSTRUMENT APPROACH CHART RNAV(GNSS) RWY 31L

**via TURMU**

| PT | WP ID | OverFly | Fix role | TD | VAR | CRS Val (°) | CRS Type | TIME (s) | DIST (NM) | MNM ALT (ft) | MAX ALT (ft) | IAS MAX (kt) | VRT ANG | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IF | TURMU | | IAF | | 4.5 | | | | | 4000 | | | | RNP APCH |
| TF | BP060 | | IF | | 4.5 | 312.6 | TT | | 6.0 | 2500 | | | | RNP APCH |
| TF | BP059 | | FAF | | 4.5 | 312.5 | TT | | 6.7 | 2500 | 2500 | | | RNP APCH |
| TF | RW31L | Y | MAPt | | 4.5 | 312.4 | TT | | 6.3 | 497 | | | -3.0 | RNP APCH |
| TF | BP057 | Y | MATF | | 4.5 | 312.4 | TT | | 4.6 | 2000 | | 200 | | RNP APCH |
| DF | BP056 | | MATF | | 4.5 | | | | | 3000 | 3000 | 200 | | RNP APCH |
| TF | RESDI | | | | 4.5 | 132.2 | TT | | 15.2 | 3000 | 3000 | 200 | | RNP APCH |

**via DIVOX**

| PT | WP ID | OverFly | Fix role | TD | VAR | CRS Val (°) | CRS Type | TIME (s) | DIST (NM) | MNM ALT (ft) | MAX ALT (ft) | IAS MAX (kt) | VRT ANG | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IF | DIVOX | | IAF | | 4.5 | | | | | 4000 | | | | RNP APCH |
| TF | BP060 | | IF | | 4.5 | 222.6 | TT | | 6.9 | 2500 | | | | RNP APCH |
| TF | BP059 | | FAF | | 4.5 | 312.5 | TT | | 6.7 | 2500 | 2500 | | | RNP APCH |
| TF | RW31L | Y | MAPt | | 4.5 | 312.4 | TT | | 6.3 | 497 | | | -3.0 | RNP APCH |
| TF | BP057 | Y | MATF | | 4.5 | 312.4 | TT | | 4.6 | 2000 | | 200 | | RNP APCH |
| DF | BP056 | | MATF | | 4.5 | | | | | 3000 | 3000 | 200 | | RNP APCH |
| TF | RESDI | | | | 4.5 | 132.2 | TT | | 15.2 | 3000 | 3000 | 200 | | RNP APCH |

**via RESDI**

| PT | WP ID | OverFly | Fix role | TD | VAR | CRS Val (°) | CRS Type | TIME (s) | DIST (NM) | MNM ALT (ft) | MAX ALT (ft) | IAS MAX (kt) | VRT ANG | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IF | RESDI | | IAF | | 4.5 | | | | | 4000 | | | | RNP APCH |
| TF | BP060 | | IF | | 4.5 | 042.4 | TT | | 6.0 | 2500 | | | | RNP APCH |
| TF | BP059 | | FAF | | 4.5 | 312.5 | TT | | 6.7 | 2500 | 2500 | | | RNP APCH |
| TF | RW31L | Y | MAPt | | 4.5 | 312.4 | TT | | 6.3 | 497 | | | -3.0 | RNP APCH |
| TF | BP057 | Y | MATF | | 4.5 | 312.4 | TT | | 4.6 | 2000 | | 200 | | RNP APCH |
| DF | BP056 | | MATF | | 4.5 | | | | | 3000 | 3000 | 200 | | RNP APCH |
| TF | RESDI | | | | 4.5 | 132.2 | TT | | 15.2 | 3000 | 3000 | 200 | | RNP APCH |

**SBAS FAS Data Block Coding Data**

| FAS-DB (CRC wrapped data) | |
|---|---|
| Operation type | 0 |
| SBAS provider ID | 1 |
| Airport identifier | LHBP |
| RWY | 31L |
| Approach performance designator | 0 |
| Route indicator | |
| Reference path data selector | 0 |
| Reference path identifier | E31A |
| LTP/FTP latitude | 472549.7100N |
| LTP/FTP longitude | 0191500.8900E |
| LTP/FTP ellipsoidal height (m) | 180.2 |
| FPAP latitude | 472655.5485N |
| FPAP longitude | 0191314.3920E |
| Threshold crossing height (TCH) | 15 |
| TCH units | 1 |
| Glide path angle (degrees) | 3.00 |
| Course width at threshold (m) | 105.00 |
| Length offset (m) | 16 |
| Horizontal alert limit (m) | 40.0 |
| Vertical alert limit (m) | 35.0 |
| Computed Data Block | 10 10 02 08 0C DF 00 00 01 31 33 05 1C DE 5A 14 34 E5 42 08 0A 1B 5D 02 02 FC BF FC 2C 81 2C 01 64 02 C8 AF CB 46 55 AB |
| Computed CRC | CB4655AB |
| **FAS-DB (not CRC wrapped)** | |
| ICAO code | LH |
| LTP/FTP Orthometric height (m) | 136.7 |
| FPAP Orhtometric height (m) | 136.7 |

**WAYPOINT COORDINATES**

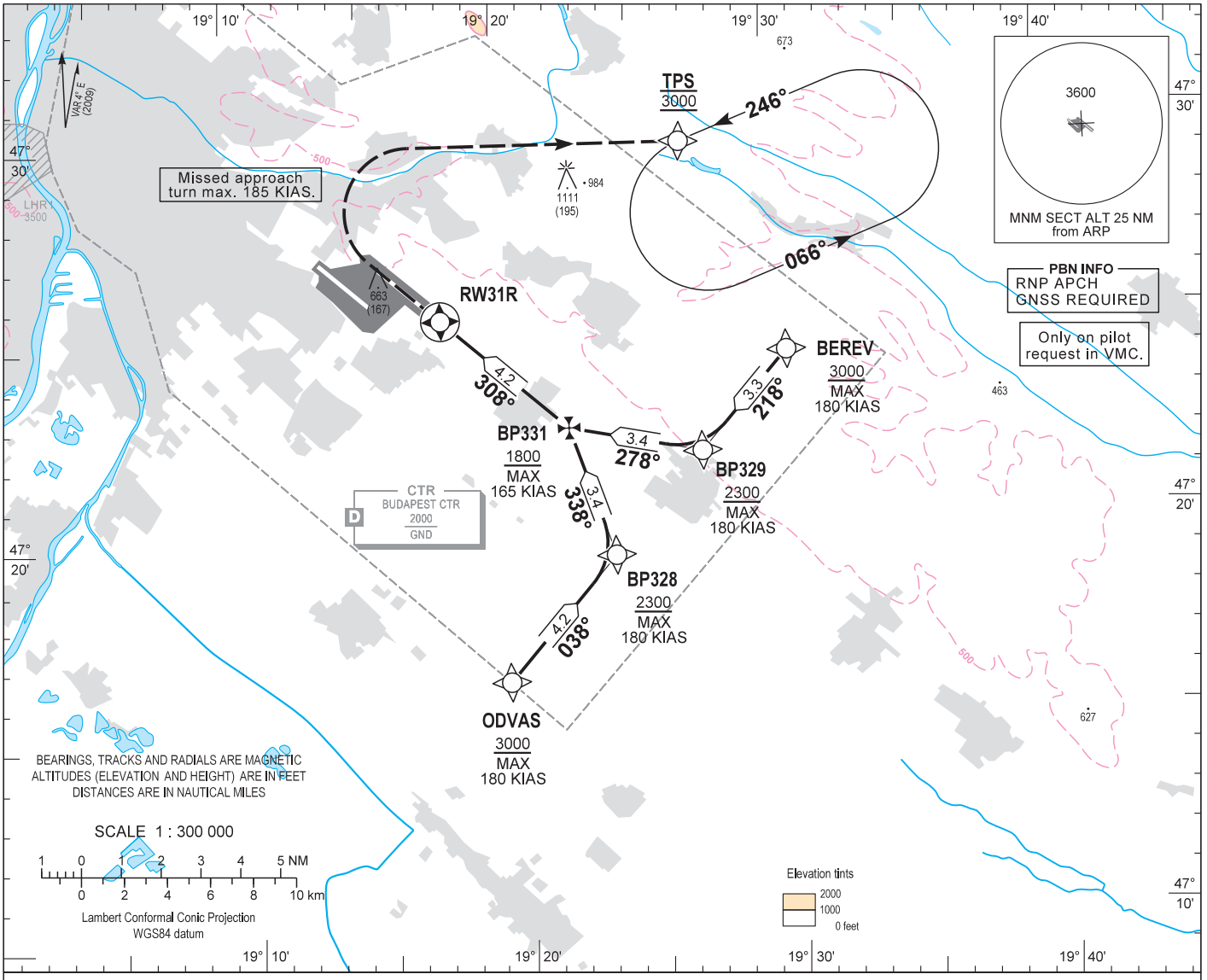
| WP ID | Latitude | Longitude |
|---|---|---|
| TURMU | N47 13 00.0 | E019 35 37.3 |
| DIVOX | N47 22 06.5 | E019 35 57.5 |
| RESDI | N47 12 38.0 | E019 23 11.1 |
| BP060 | N47 17 03.4 | E019 29 08.0 |
| BP059 | N47 21 35.4 | E019 21 51.1 |
| RW31L | N47 25 49.71 | E019 15 00.89 |
| BP057 | N47 28 56.5 | E019 09 58.6 |
| BP056 | N47 22 52.0 | E019 06 41.0 |

# INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 496
HEIGHTS RELATED TO THR RWY 31R - ELEV 416

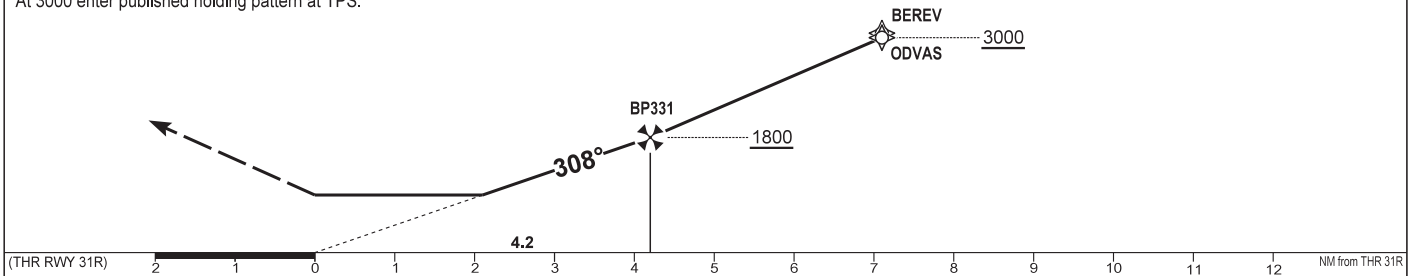
| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| | | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST TOWER | 118.100 | ATIS | 132.380 (117.300) |
| BUDAPEST INFORMATION (NORTH) | | | 119.350 |

# BUDAPEST/LISZT FERENC
RNAV(GNSS) Y RWY 31R
(ACFT CAT A, B, C)




MISSED APPROACH
Climb to 3000 on runway heading.
When passing 900 turn right to TPS.
Maximum turning speed 185 KIAS.
At 3000 enter published holding pattern at TPS.

TRANSITION ALTITUDE
10000




| CAT OF ACFT | | | A | B | C |
|---|---|---|---|---|---|
| OCA (H) STRAIGHT-IN | LNAV | 2.5% macg | 1300 (884) | | |

| DIST THR / RW31R | NM | 6.0 | 5.0 | 4.0 | 3.0 |
|---|---|---|---|---|---|
| ALTITUDE | ft | 2380 | 2060 | 1740 | 1420 |

**VISUAL APPROACH RWY 31R**
**VMC**
**CEILING - VISIBILITY**

**1500` AGL - 5 KM**

| GS | kt | 80 | 100 | 120 | 140 | 160 | 180 |
|---|---|---|---|---|---|---|---|
| BP331 - RW31R (4.2 NM) Timing not authorised for defining the MAPt. | min:sec | 4:47 | 3:50 | 3:12 | 2:44 | 2:24 | 2:08 |
| Rate of descent (326.1 ft/NM) | ft/min | 430 | 540 | 650 | 760 | 860 | 970 |

# AD 2 LHBP INSTRUMENT APPROACH CHART RNAV$_{(GNSS)}$ Y RWY 31R

via BEREV

| PT | WP ID | Flx role | OverFly | Bearing | Len/Dur | Turn Direction | Len/Dur | IAS (kt) | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|
| IF | BEREV | IAF | | | | | +3000 | -180 | RNP APCH |
| TF | BP329 | IF | | 222.5T | 3.3NM | R | +2300 | -180 | RNP APCH |
| TF | BP331 | FAF | Y | 282.5T | 3.4NM | R | +1800 | -165 | RNP APCH |
| TF | RW31R | LTP/FTP | Y | 312.4T | 4.2NM | | +466 | | RNP APCH |
| VA | | | | 312.4T | | | +900 | | RNP APCH |
| DF | TPS | TP | | | | R | @3000 | -185 | RNP APCH |
| HM | TPS | MAHF | | 250.2T | 1.00 min | L | @3000 | -230 | RNP APCH |

via ODVAS

| PT | WP ID | Flx role | OverFly | Bearing | Len/Dur | Turn Direction | Len/Dur | IAS (kt) | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|
| IF | ODVAS | IAF | | | | | +3000 | -180 | RNP APCH |
| TF | BP328 | IF | | 042.5T | 4.2NM | L | +2300 | -180 | RNP APCH |
| TF | BP331 | FAF | Y | 342.5T | 3.4NM | L | +1800 | -165 | RNP APCH |
| TF | RW31R | LTP/FTP | Y | 312.4T | 4.2NM | | +466 | | RNP APCH |
| VA | | | | 312.4T | | | +900 | | RNP APCH |
| DF | TPS | TP | | | | R | @3000 | -185 | RNP APCH |
| HM | TPS | MAHF | | 250.2T | 1.00 min | L | @3000 | -230 | RNP APCH |

WAYPOINT COORDINATES

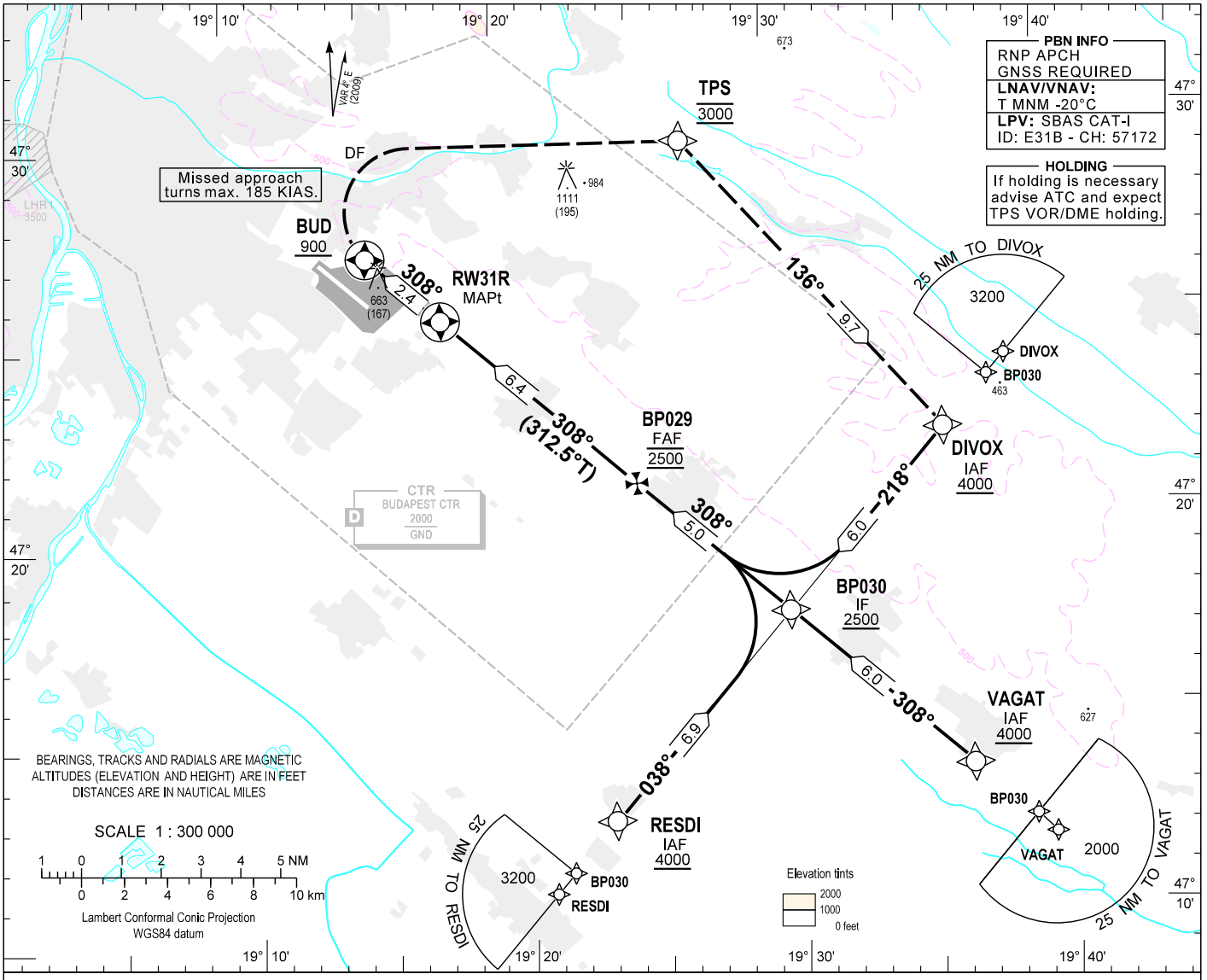
| WP ID | Latitude | Longitude |
|---|---|---|
| BEREV | N47 24 14.9 | E019 30 21.2 |
| ODVAS | N47 16 15.0 | E019 19 34.7 |
| BP328 | N47 19 18.7 | E019 23 41.6 |
| BP329 | N47 21 49.1 | E019 27 04.2 |
| BP331 | N47 22 33.1 | E019 22 11.2 |
| RW31R | N47 25 22.62 | E019 17 37.88 |
| TPS | N47 29 35.7 | E019 26 46.4 |

# INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 496
HEIGHTS RELATED TO THR RWY 31R - ELEV 416

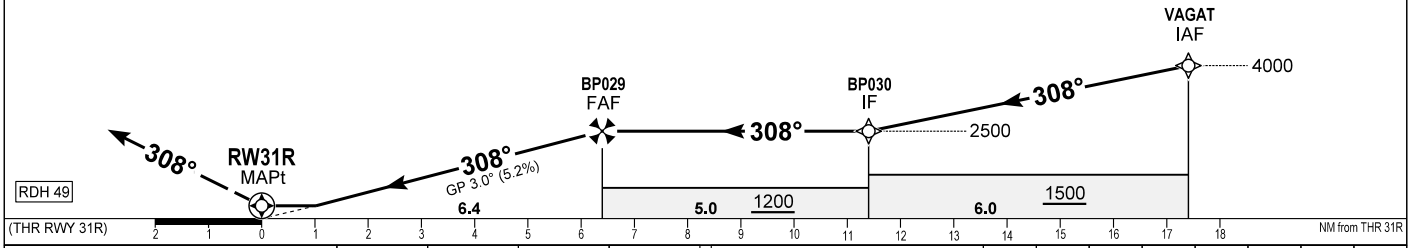
| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| | | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST TOWER | 118.100 | ATIS | 132.380 (117.300) |
| BUDAPEST INFORMATION (NORTH) | | | 119.350 |

# BUDAPEST/LISZT FERENC
RNAV(GNSS) Z RWY 31R
(ACFT CAT A, B, C, D)




MISSED APPROACH
Climb to BUD at or above 900.
At BUD turn right direct to TPS at 3000.
Then turn right and continue to DIVOX at 3000.
Maximum turning speed 185 KIAS.

TRANSITION ALTITUDE
10000




| CAT OF ACFT | | | A | B | C | D |
|---|---|---|---|---|---|---|
| OCA (H) STRAIGHT-IN | LNAV | 2.5% macg | 1110 (686) | 1130 (710) | 1150 (734) | 1170 (753) |
| | | 4.0% macg | 770 (349) | | 780 (361) | 790 (367) |
| | LNAV/VNAV | 2.5% macg | 979 (563) | 989 (573) | 1010 (594) | 1036 (620) |
| | | 4.0% macg | 650 (234) | 660 (244) | 669 (253) | 687 (271) |
| | LPV | 2.5% macg | 979 (563) | 989 (573) | 999 (583) | 1009 (593) |
| | | 4.0% macg | 607 (191) | 617 (201) | 627 (211) | 636 (220) |
| CIRCLING | | | 970 | 1190 | 1310 | 1510 |

| DIST THR / RW31R | NM | 6.0 | 5.0 | 4.0 | 3.0 | 2.0 | 1.0 | 0.0 |
|---|---|---|---|---|---|---|---|---|
| ALTITUDE | ft | 2380 | 2060 | 1740 | 1420 | 1100 | 780 | 466 |
| GS | kt | 80 | 100 | 120 | 140 | 160 | 180 | |
| BP029 - RW31R (6.4 NM) Timing not authorised for defining the MAPt. | mln:sec | 4:47 | 3:50 | 3:12 | 2:44 | 2:24 | 2:08 | |
| Rate of descent (326.1 ft/NM) | ft/min | 430 | 540 | 650 | 760 | 860 | 970 | |

# AD 2 LHBP INSTRUMENT APPROACH CHART RNAV(GNSS) Z RWY 31R

**via VAGAT**

| PT | WP ID | OverFly | Fix role | TD | VAR | CRS Val (°) | CRS Type | TIME (s) | DIST (NM) | MNM ALT (ft) | MAX ALT (ft) | IAS MAX (kt) | VRT ANG | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IF | VAGAT | | IAF | | 4.5 | | | | | 4000 | | | | RNP APCH |
| TF | BP030 | | IF | | 4.5 | 312.6 | TT | | 6.0 | 2500 | | | | RNP APCH |
| TF | BP029 | | FAF | | 4.5 | 312.5 | TT | | 5.0 | 2500 | 2500 | | | RNP APCH |
| TF | RW31R | Y | MAPt | | 4.5 | 312.5 | TT | | 6.4 | 466 | | | -3.0 | RNP APCH |
| TF | BUD | Y | MATF | | 4.5 | 312.4 | TT | | 2.4 | 900 | | 185 | | RNP APCH |
| DF | TPS | | MATF | | 4.5 | | | | | 3000 | 3000 | 185 | | RNP APCH |
| TF | DIVOX | | | | 4.5 | 140.2 | TT | | 9.7 | 3000 | 3000 | | | RNP APCH |

**via DIVOX**

| PT | WP ID | OverFly | Fix role | TD | VAR | CRS Val (°) | CRS Type | TIME (s) | DIST (NM) | MNM ALT (ft) | MAX ALT (ft) | IAS MAX (kt) | VRT ANG | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IF | DIVOX | | IAF | | 4.5 | | | | | 4000 | | | | RNP APCH |
| TF | BP030 | | IF | | 4.5 | 222.6 | TT | | 6.0 | 2500 | | | | RNP APCH |
| TF | BP029 | | FAF | | 4.5 | 312.5 | TT | | 5.0 | 2500 | 2500 | | | RNP APCH |
| TF | RW31R | Y | MAPt | | 4.5 | 312.5 | TT | | 6.4 | 466 | | | -3.0 | RNP APCH |
| TF | BUD | Y | MATF | | 4.5 | 312.4 | TT | | 2.4 | 900 | | 185 | | RNP APCH |
| DF | TPS | | MATF | | 4.5 | | | | | 3000 | 3000 | 185 | | RNP APCH |
| TF | DIVOX | | | | 4.5 | 140.2 | TT | | 9.7 | 3000 | 3000 | | | RNP APCH |

**via RESDI**

| PT | WP ID | OverFly | Fix role | TD | VAR | CRS Val (°) | CRS Type | TIME (s) | DIST (NM) | MNM ALT (ft) | MAX ALT (ft) | IAS MAX (kt) | VRT ANG | NAV PERF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IF | RESDI | | IAF | | 4.5 | | | | | 4000 | | | | RNP APCH |
| TF | BP030 | | IF | | 4.5 | 042.5 | TT | | 6.9 | 2500 | | | | RNP APCH |
| TF | BP029 | | FAF | | 4.5 | 312.5 | TT | | 5.0 | 2500 | 2500 | | | RNP APCH |
| TF | RW31R | Y | MAPt | | 4.5 | 312.5 | TT | | 6.4 | 466 | | | -3.0 | RNP APCH |
| TF | BUD | Y | MATF | | 4.5 | 312.4 | TT | | 2.4 | 900 | | 185 | | RNP APCH |
| DF | TPS | | MATF | | 4.5 | | | | | 3000 | 3000 | 185 | | RNP APCH |
| TF | DIVOX | | | | 4.5 | 140.2 | TT | | 9.7 | 3000 | 3000 | | | RNP APCH |

**SBAS FAS Data Block Coding Data**

| FAS-DB (CRC wrapped data) | |
|---|---|
| Operation type | 0 |
| SBAS provider ID | 1 |
| Airport identifier | LHBP |
| RWY | 31R |
| Approach performance designator | 0 |
| Route indicator | Z |
| Reference path data selector | 0 |
| Reference path identifier | E31B |
| LTP/FTP latitude | 472522.6200N |
| LTP/FTP longitude | 0191737.8800E |
| LTP/FTP ellipsoidal height (m) | 170.4 |
| FPAP latitude | 472644.3865N |
| FPAP longitude | 0191525.7790E |
| Threshold crossing height (TCH) | 15 |
| TCH units | 1 |
| Glide path angle (degrees) | 3.00 |
| Course width at threshold (m) | 105.00 |
| Length offset (m) | 40 |
| Horizontal alert limit (m) | 40.0 |
| Vertical alert limit (m) | 35.0 |
| Computed Data Block | 10 10 02 08 0C 5F D0 00 02 31 33 05 78 0A 5A 14 B0 AF 47 08 A8 1A CD 7E 02 F6 F7 FB 2C 81 2C 01 64 05 C8 AF A7 06 25 5A |
| Computed CRC | A706255A |
| **FAS-DB (not CRC wrapped)** | |
| ICAO code | LH |
| LTP/FTP Orthometric height (m) | 126.9 |
| FPAP Orhtometric height (m) | 126.9 |

**WAYPOINT COORDINATES**

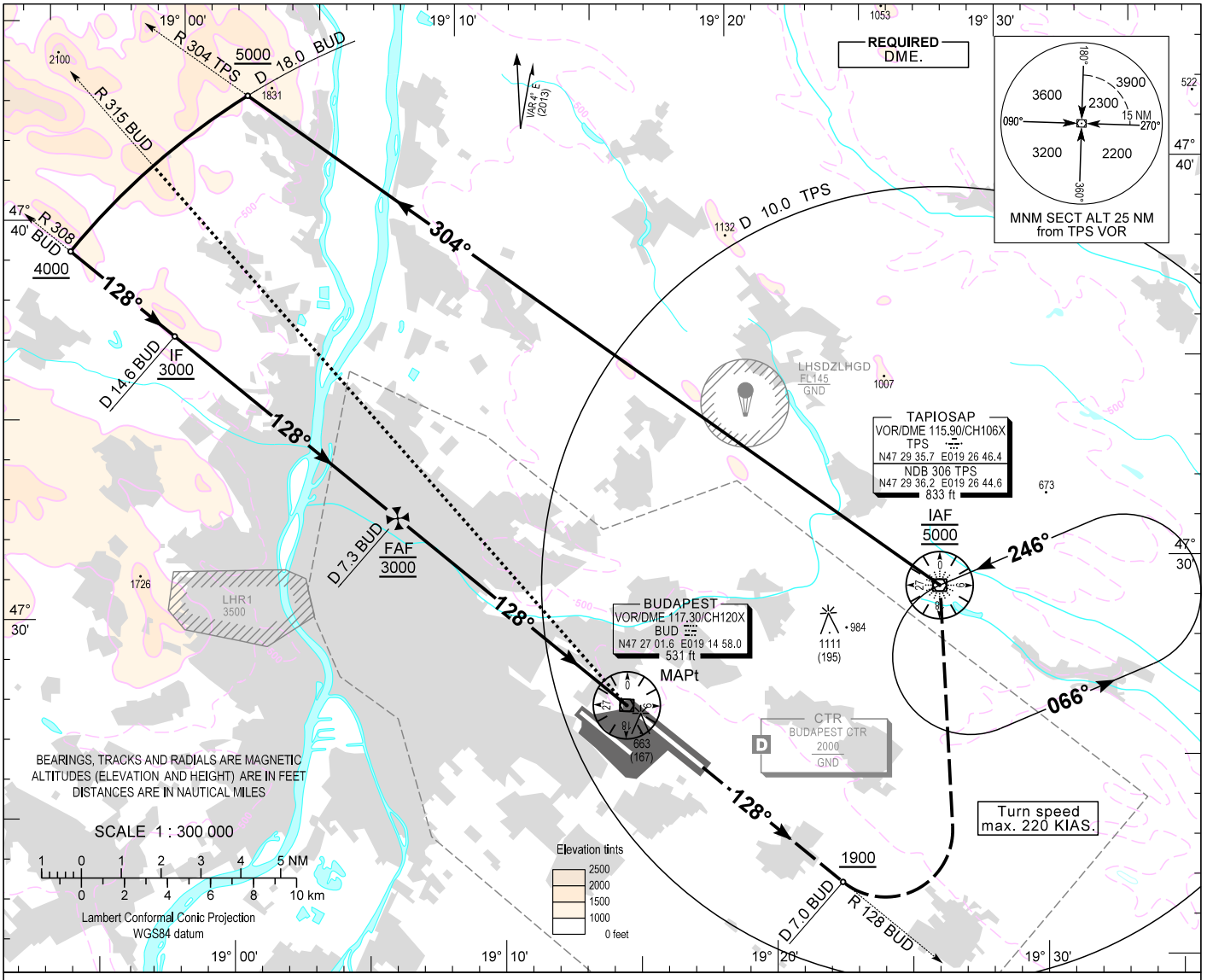
| WP ID | Latitude | Longitude |
|---|---|---|
| VAGAT | N47 13 38.1 | E019 36 28.7 |
| DIVOX | N47 22 06.5 | E019 35 57.5 |
| RESDI | N47 12 38.0 | E019 23 11.1 |
| BP030 | N47 17 41.5 | E019 29 59.5 |
| BP029 | N47 21 04.1 | E019 24 34.4 |
| RW31R | N47 25 22.62 | E019 17 37.88 |
| BUD | N47 27 01.6 | E019 14 58.0 |
| TPS | N47 29 35.7 | E019 26 46.4 |

# INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 496
HEIGHTS RELATED TO THR RWY 13L - ELEV 496

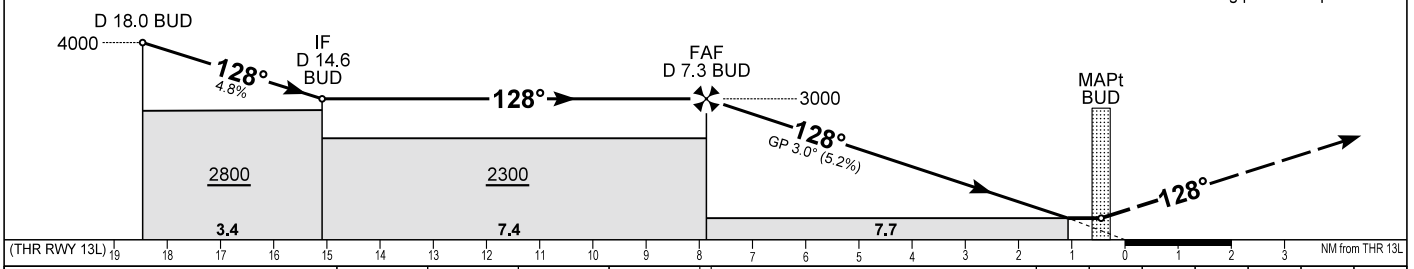
| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| | | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST TOWER | 118.100 | ATIS | 132.380 (117.300) |
| BUDAPEST INFORMATION (NORTH) | 119.350 | | |

# BUDAPEST/LISZT FERENC
## VOR RWY 13L
(ACFT CAT A, B, C, D)




TRANSITION ALTITUDE
10000

MISSED APPROACH
Climb 4000 and continue on R 128 BUD outbound.
Cross D 7.0 BUD at 1900 or above and turn left direct to TPS VOR/DME.
Maximum turning speed 220 KIAS.
Reach TPS VOR/DME at 3000 or above and enter holding pattern as published.




| CAT OF ACFT | | A | B | C | D |
|---|---|---|---|---|---|
| OCA (H) STRAIGHT-IN | 2.5% macg | 950 (454) | 980 (484) | 1000 (504) | 1020 (524) |
| | 3.7% macg | 880 (384) | | | |
| CIRCLING | | 980 | 1190 | 1310 | 1510 |

| DME BUD | NM | 6.0 | 5.0 | 4.0 | 3.0 | 2.0 | 1.0 |
|---|---|---|---|---|---|---|---|
| DIST THR / RWY 13L | NM | 6.5 | 5.5 | 4.5 | 3.5 | 2.5 | 1.5 |
| ALTITUDE | ft | 2620 | 2300 | 1980 | 1660 | 1350 | 1030 |

Timing not authorised for defining the MAPt.

| GS | kt | 80 | 100 | 120 | 140 | 160 | 180 |
|---|---|---|---|---|---|---|---|
| FAF - RWY 13L (7.7 NM) | min:sec | 5:47 | 4:38 | 3:52 | 3:19 | 2:54 | 2:35 |
| Rate of descent (324.8 ft/NM) | ft/min | 430 | 540 | 640 | 750 | 860 | 970 |

# AD 2 LHBP INSTRUMENT APPROACH CHART VOR RWY 13L

**VOR approach procedure:**
Initial altitude: 5000.
Leave TPS on R 304 TPS and maintain 5000.
When reaching D 18.0 BUD turn left and join D 18.0 BUD DME arc CCW and descend 4000.
After crossing R 315 BUD leading radial turn left and intercept R 308 BUD (final track) inbound, descend 3000.
When crossing D 7.3 BUD descend to published minimum altitude related to aircraft category.

**Holding procedure:**
Holding fix: TPS VOR.
Left hand holding pattern.

| | |
|---|---|
| Maximum speed: | 230 KIAS |
| Inbound track: | 246° |
| Outbound track: | 066° |
| Rate of turn: | 3°/sec. or 25° bank angle<br>(whichever requires lesser bank) |
| Outbound timing: | 1 min. |
| Minimum holding altitude: | 5000<br>4000 for Missed approach |
| Maximum holding altitude: | 10000 |

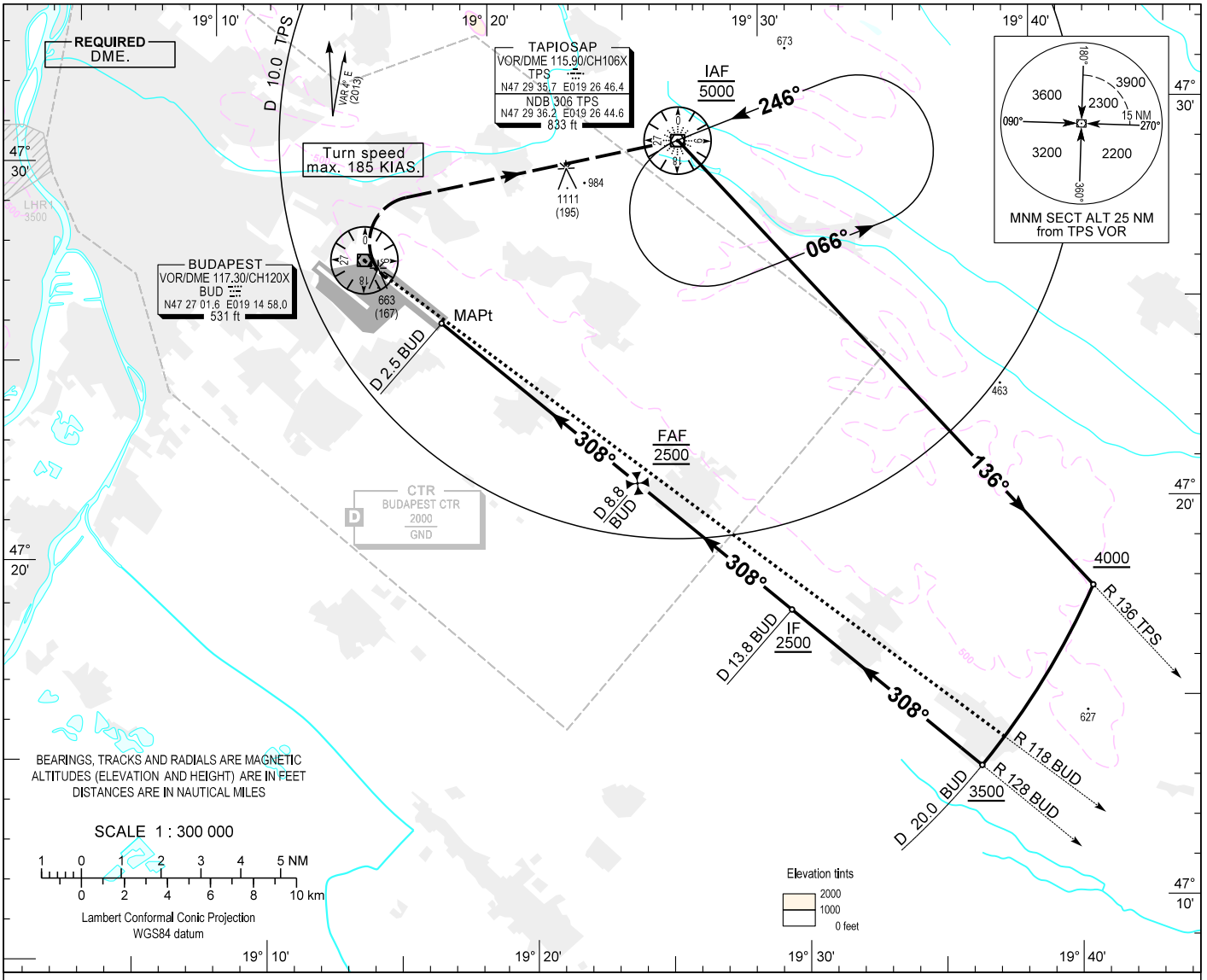
Final approach descent: 3.0°.

# INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 496
HEIGHTS RELATED TO THR RWY 31R - ELEV 416

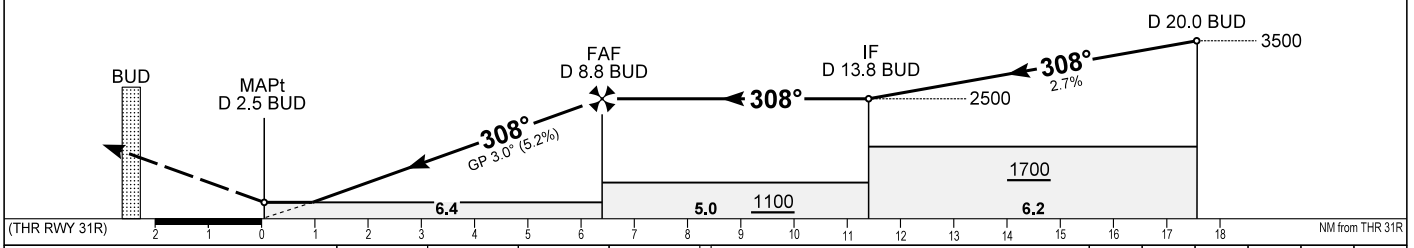
| | | | |
|---|---|---|---|
| BUDAPEST APP | 122.975 123.860 119.510 | BUDAPEST GROUND | 121.910 |
| | | BUDAPEST DELIVERY | 134.540 |
| BUDAPEST TOWER | 118.100 | ATIS | 132.380 (117.300) |
| BUDAPEST INFORMATION (NORTH) | | | 119.350 |

# BUDAPEST/LISZT FERENC
## VOR RWY 31R
(ACFT CAT A, B, C, D)




MISSED APPROACH
Climb to 3000 on R 128 BUD inbound BUD VOR.
When passing 900 turn right to TPS VOR.
Maximum turning speed 185 KIAS.
At 3000 enter published holding pattern at TPS VOR/DME.

TRANSITION ALTITUDE
10000




| CAT OF ACFT | | A | B | C | D |
|---|---|---|---|---|---|
| OCA (H) STRAIGHT-IN | 2.5% macg | 1240 (824) | | 1260 (844) | |
| | 3.7% macg | 770 (354) | | 790 (374) | |
| CIRCLING | | 980 | 1190 | 1310 | 1510 |

| DME BUD | NM | 8.0 | 7.0 | 6.0 | 5.0 | 4.0 |
|---|---|---|---|---|---|---|
| DIST THR / RWY 31R | NM | 5.5 | 4.5 | 3.5 | 2.5 | 1.5 |
| ALTITUDE | ft | 2220 | 1900 | 1580 | 1270 | 950 |

Timing not authorised for defining the MAPt.

| GS | kt | 80 | 100 | 120 | 140 | 160 | 180 |
|---|---|---|---|---|---|---|---|
| FAF - RWY 31R (6.4 NM) | min:sec | 4:48 | 3:51 | 3:12 | 2:45 | 2:24 | 2:08 |
| Rate of descent (326.1 ft/NM) | ft/min | 430 | 540 | 650 | 760 | 860 | 970 |

# AD 2 LHBP INSTRUMENT APPROACH CHART VOR RWY 31R

**VOR approach procedure:**
Initial altitude 5000.
Leave TPS VOR on R 136 TPS outbound and descend 4000.
At D 20.0 BUD turn right and join CW D 20.0 BUD DME arc, descend 3500.
After crossing R 118 BUD leading radial turn right and intercept R 128 BUD inbound (final track), descend 2500.
When crossing D 8.8 BUD (FAF) descend to published minimum altitude.

**Holding procedure:**
Holding fix: TPS VOR.
Left hand holding pattern.

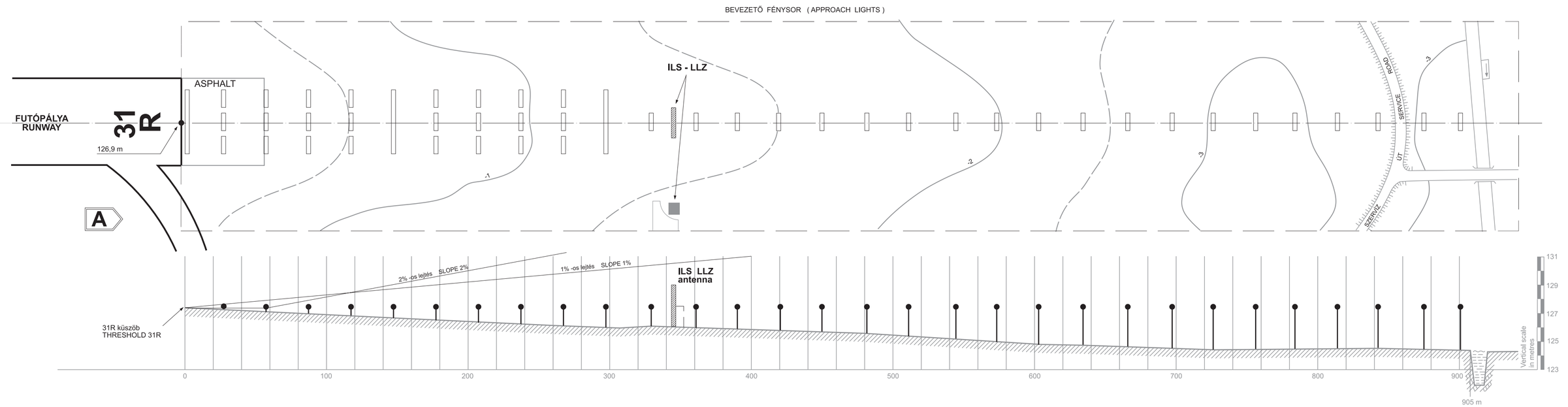
| | |
|---|---|
| Maximum speed: | 230 KIAS |
| Inbound track: | 246° |
| Outbound track: | 066° |
| Rate of turn: | 3°/sec. or 25° bank angle (whichever requires lesser bank) |
| Outbound timing: | 1 min. |
| Minimum holding altitude: | 5000<br>3000 for Missed approach |
| Maximum holding altitude: | 10000 |

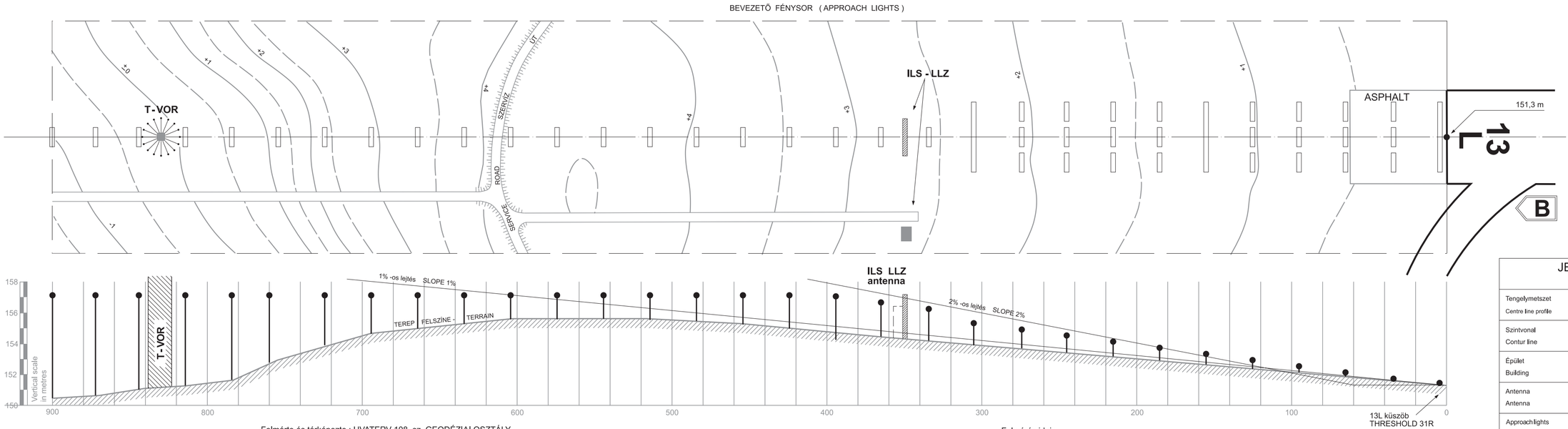
Final approach descent: 3.0°

VÍZSZINTES ÉS MAGASSÁGI ADATOK MÉTERBEN
DISTANCES AND ELEVATIONS IN METRES

HORIZONTAL SCALE 1 : 2000
VERTICAL SCALE 1 : 200

A MAGASSÁGOK A BALTI ALAPSZINTRE VONATKOZNAK
ELEVATIONS ABOVE BALTIC SEA LEVEL




| JELMAGYARÁZAT<br>LEGEND | |
|---|---|
| Tengelymetszet<br>Centre line profile | |
| Szintvonal<br>Contur line | -1 |
| Épület<br>Building | |
| Antenna<br>Antenna | |
| Approach lights<br>Bevezető fények | |
| Csatorna híddal<br>Canal with bridge | |

Felmérte és térképezte : UVATERV 108, sz. GEODÉZIAI OSZTÁLY
Surveyed and plotted by: CONSULTING AND ENGINEERING FOR COMMUNICATION AND TRANSPORTATION

Felmérés ideje:
Date of survay: SEPTEMBER 1987

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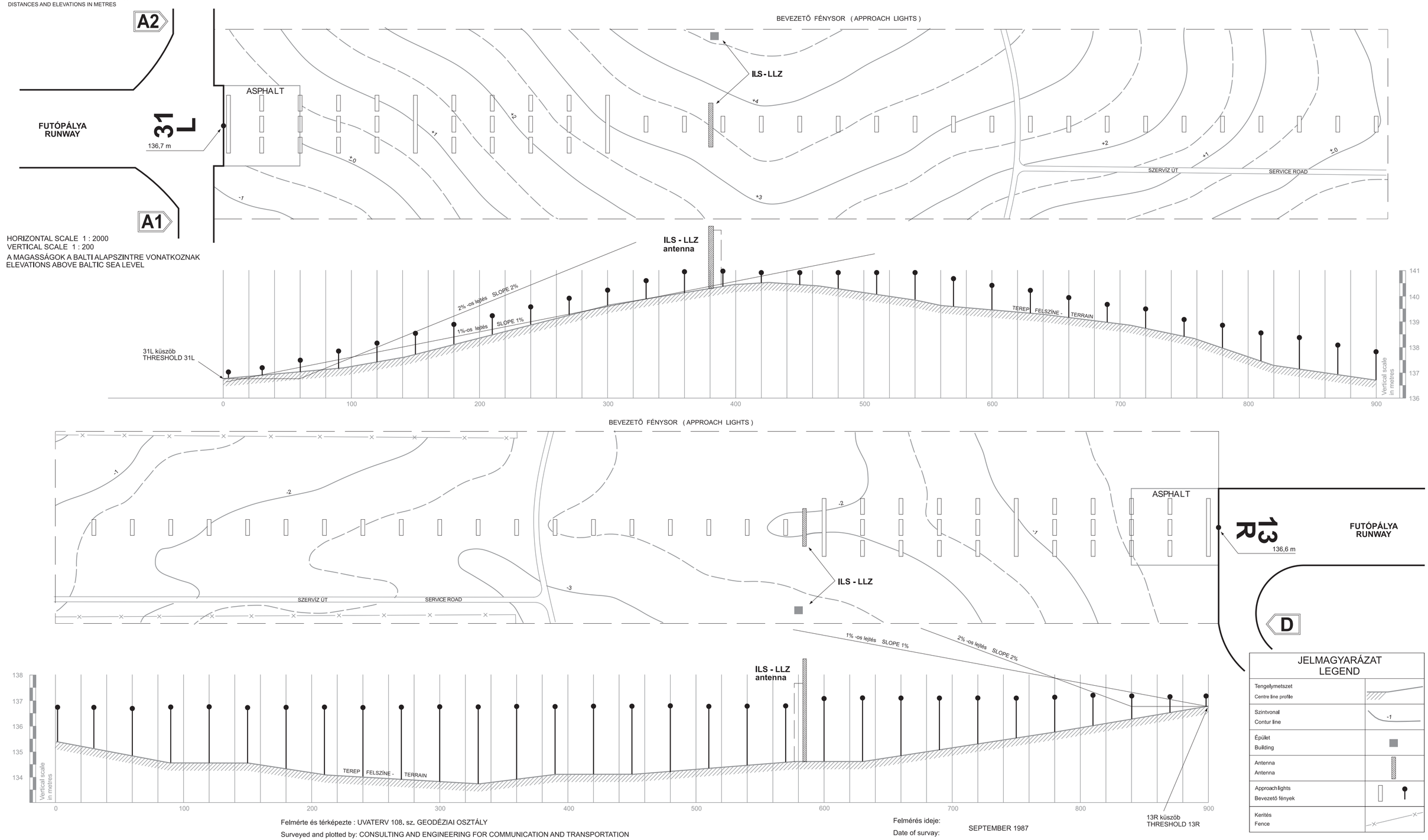
VÍZSZINTES ÉS MAGASSÁGI ADATOK MÉTERBEN
DISTANCES AND ELEVATIONS IN METRES




Felmérte és térképezte : UVATERV 108. sz. GEODÉZIAI OSZTÁLY
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Felmérés ideje:
Date of survay: SEPTEMBER 1987

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# BUDAPEST/LISZT FERENC - VISUAL APPROACH CHART - ICAO



| | |
|---|---|
| BUDAPEST APPROACH | 122.975 MHz |
| | 123.860 CH |
| | 119.510 CH |
| BUDAPEST TOWER | 118.100 MHz |
| BUDAPEST GROUND | 121.910 CH |
| BUDAPEST DELIVERY | 134.540 CH |
| ATIS | 132.380 CH |
| ATIS (BUD VOR) | 117.300 MHz |
| BUDAPEST INFORMATION (NORTH) | 119.350 MHz |

VFR MIN: VISIBLITY: 5 km
CLOUDBASE: 1500 ft

ELEVATION
496

SIKATOR
KEREPES
MIKLOS
TAPIO
SOROKTIL VISUAL ARRIVAL
ALPHA
HIGHWAY
472532N 0190905E
(Highway junction)
MIKE
PAKONBL VISUAL ARRIVAL
PAKONBR VISUAL ARRIVAL
LAKE
472349N 0191338E
(Artificial Lake at excavation site)
FINAL APPROACH AREA

050° MAX 160 KT
MAX 120 KIAS
075°
096°
036°
MAX 250 KIAS
SOROK MAX. ENTRY SPEED 170 KIAS
PAKON MAX. ENTRY SPEED 120 KIAS

HELICOPTER LANDING SITES
Restricted use for nat. air ambulance only

| ID | Coordinates |
|---|---|
| BP01 | N47 34 42.0 E019 15 04.2 |
| BP03 | N47 25 30.0 E019 07 52.2 |
| BP06 | N47 32 28.8 E019 04 24.0 |
| BP08 | N47 33 09.0 E018 58 24.0 |
| BP09 | N47 28 27.0 E019 05 01.2 |
| BP10 | N47 32 25.2 E019 15 19.2 |
| BP11 | N47 29 49.8 E019 04 54.6 |
| BP12 | N47 30 46.8 E019 05 11.4 |
| BP13 | N47 30 36.6 E019 00 04.2 |
| BP14 | N47 28 01.2 E019 06 00.0 |
| BP15 | N47 31 52.8 E019 04 21.6 |
| BP16 | N47 28 06.0 E019 02 03.0 |
| BP17 | N47 31 15.7 E019 06 04.3 |
| LHBS | N47 26 50.4 E018 59 03.0 |

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES (ELEVATION AND HEIGHT) ARE IN FEET
DISTANCES ARE IN NAUTICAL MILES

1 : 125 000

0 5 km
0 3 NM

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