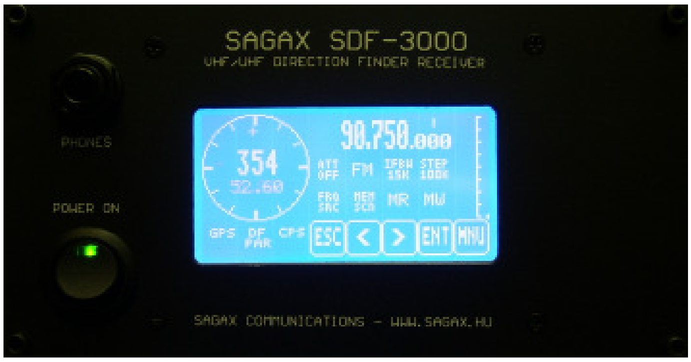
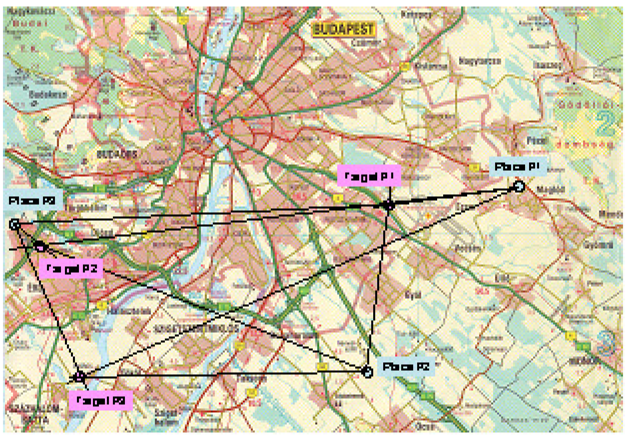
Multimission Direction Finding Receiver SDF-3000 Field Trial Report





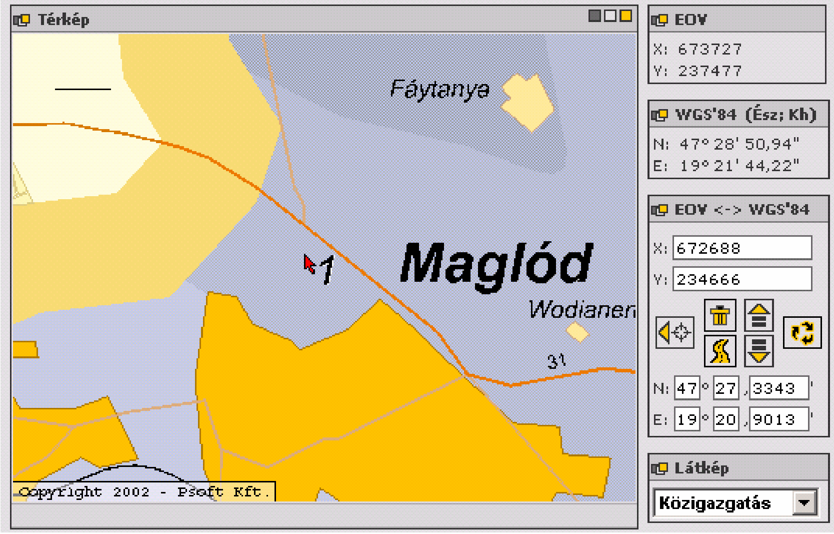
CONTENT

DF Receiver positions

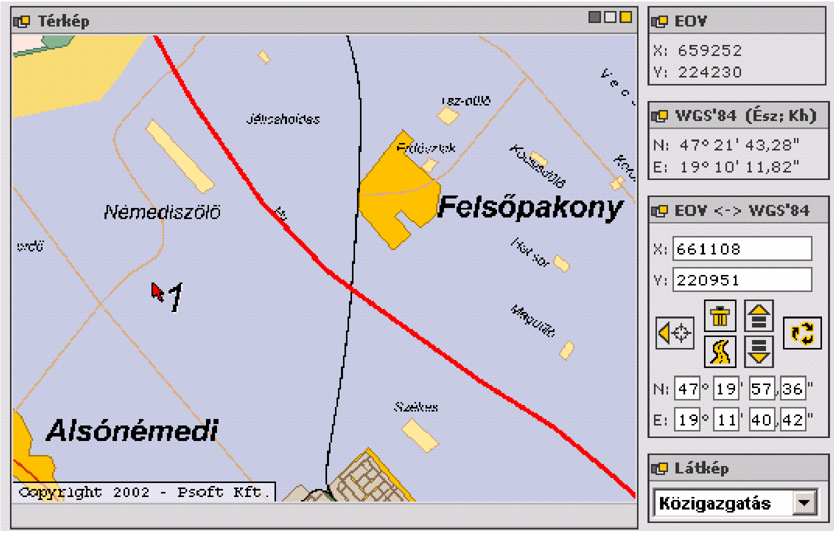
Three different places were use around south Budapest. The receiver positions are as the followings.

	Place #1	Place #2	Place #3
Name	Maglód	Alsónémedi	Sóskút
GPS Position	N 47º 27’ 20.05” E 19º 20’ 54.07”	N 47º 19’ 57.36” E 19º 11’ 40.42”	N 47º 25’ 33.61” E 18º 51’ 46.23”
	N 47º 27.3343’ E 19º 20.9013’	N 47º 19.9500’ E 19º 11.6665’	N 47º 25.5602’ E 18º 51.7706’
Altitude	218m	115m	283m
Comments			

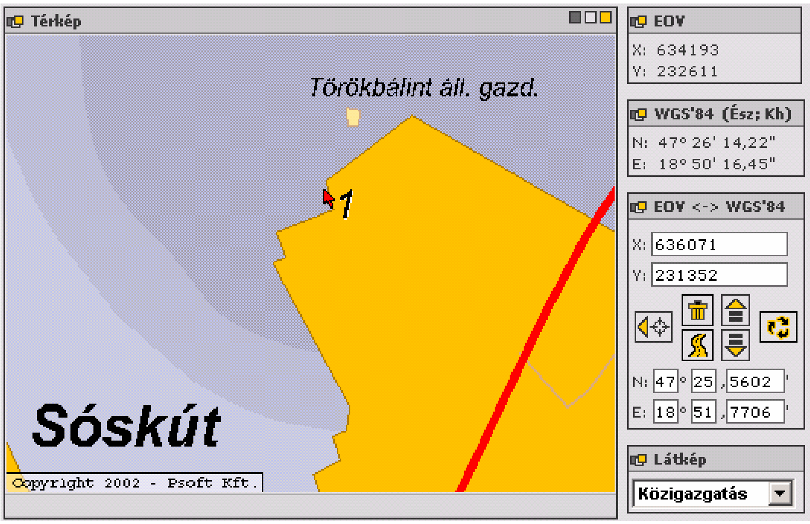
DF Receiver position on the map:



Place #1



Place #2



Place #3

DF Receiver setup photos:

Place #1

Place #2

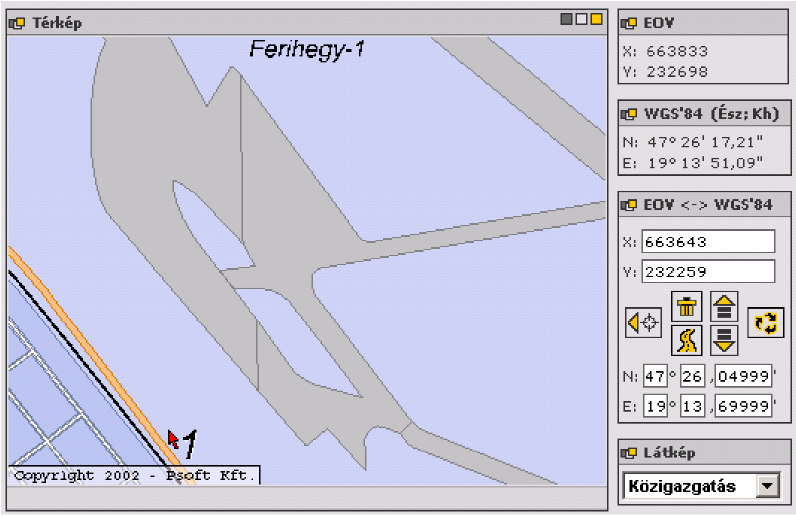
Place #3

Target emitter positions

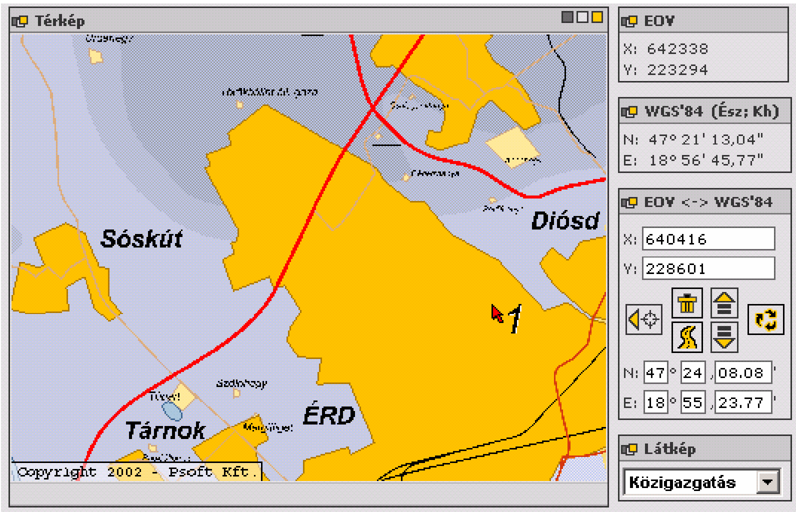
Three different emitters were used in the trial, two were operated in VHF and one in UHF.

	Target #1	Target #2	Target #3
Name	Ferihegy	Érd	Százhalombatta
GPS Position	N 47º 26’ 03.00” E 19º 13’ 41.97”	N 47º 24’ 08.08” E 18º 55’ 23.77”	N 47º 20’ 05.04” E 18º 55’ 08.01”
	N 47º 26.0499’ E 19º 13.9166’	N 47º 24.0666’ E 19º 53.21666’	N 47º 20.0833’ E 18º 55.1333’
Altitude	Na	Na	Na
Frequency	132.375MHz	145.650MHz	434.675MHz

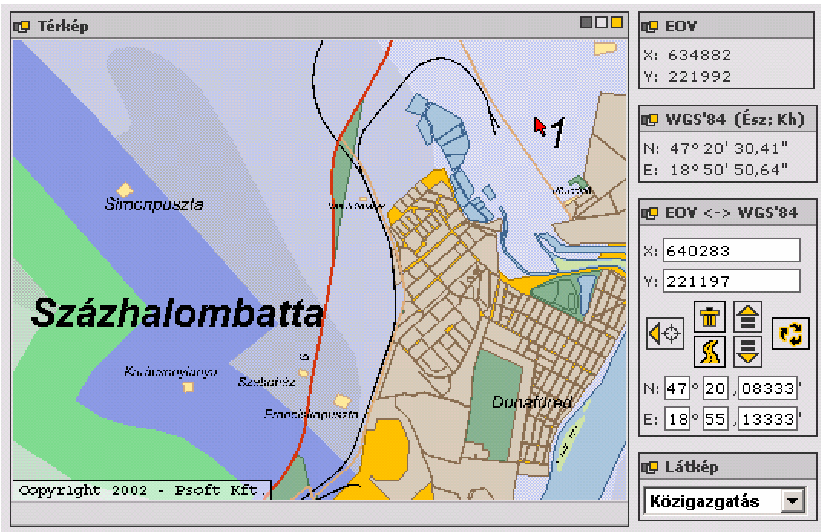
Target position on the map:



Target #1



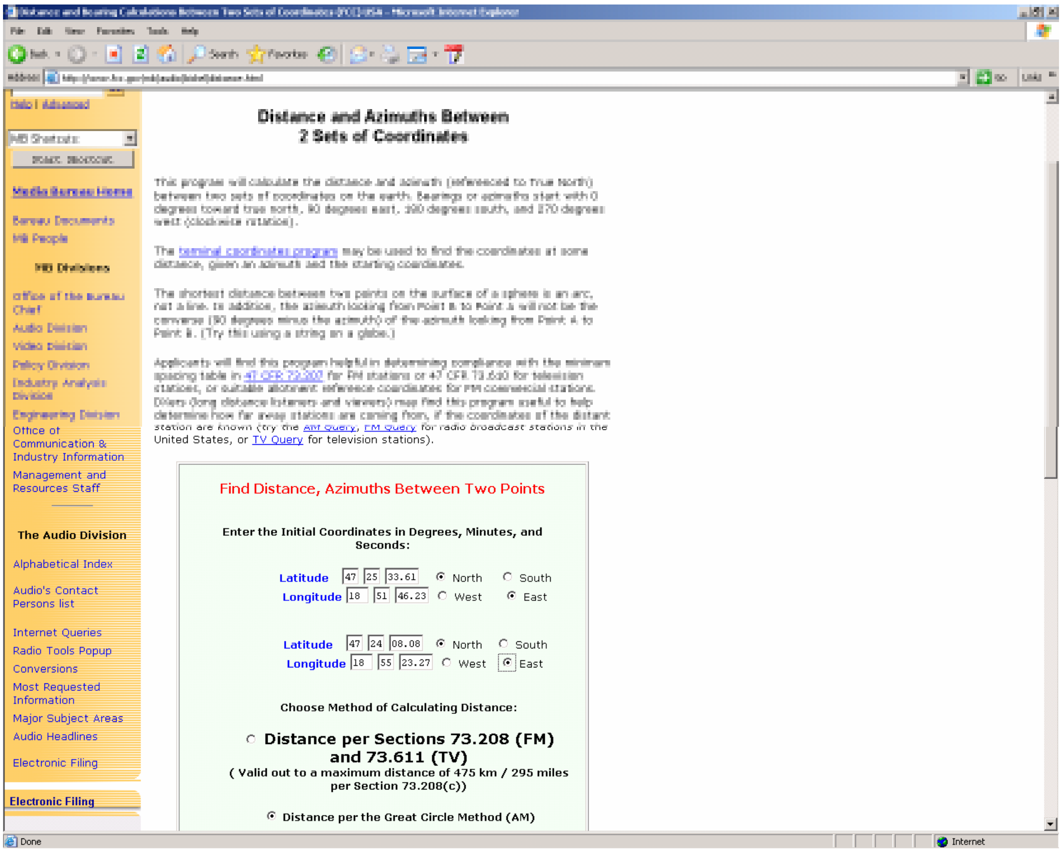
Target #2



Target #3

Distance and bearing calculations

The distance and bearing from different places to different targets was computed by the FCC official on-line calculator program.

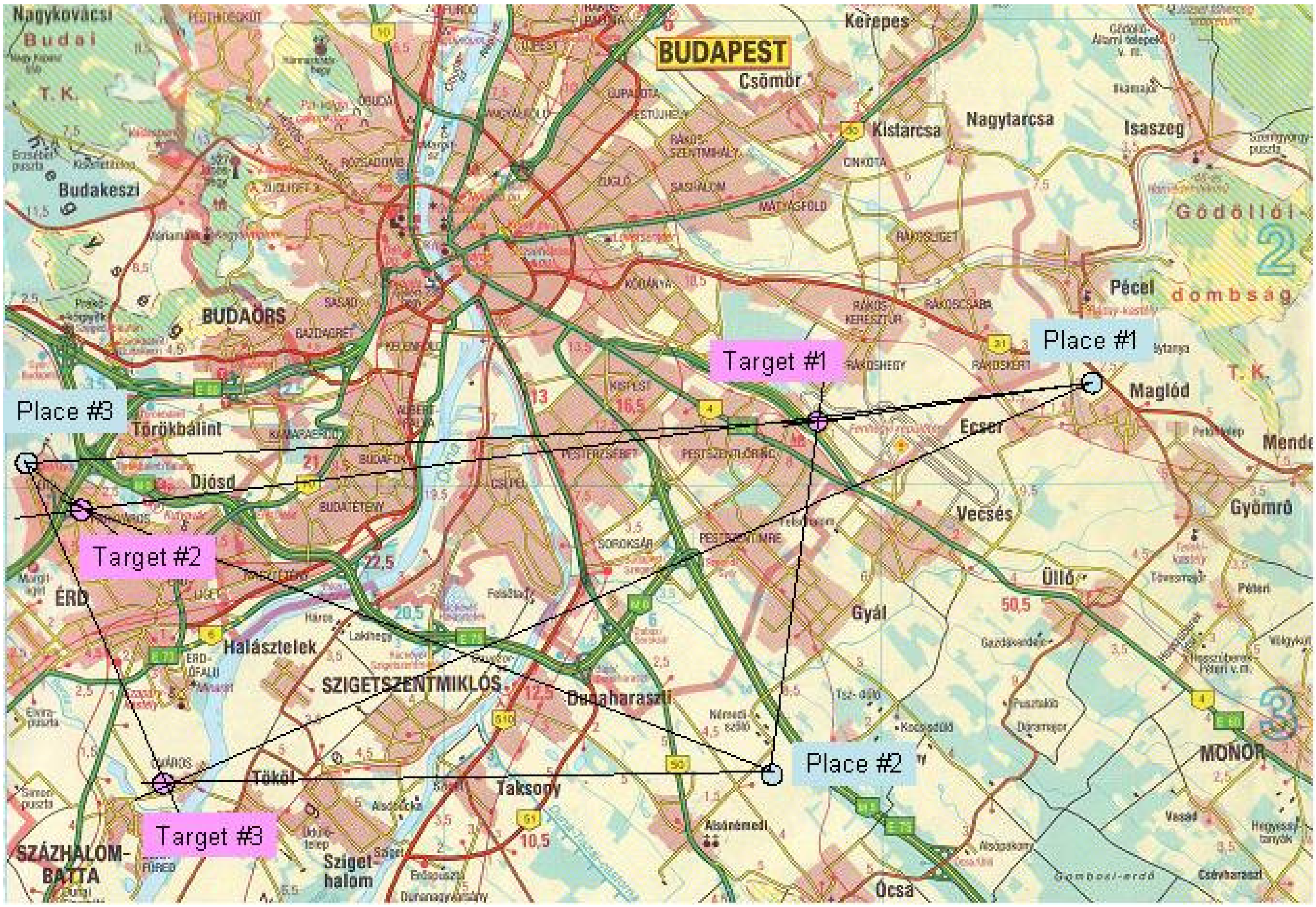


	Place #1
Target #1	Distance between N Latitude 47 27 20.05, E Longitude 19 20 54.07 (Point 1) and N Latitude 47 26 3.00, E Longitude 19 13 41.97 (Point 2) **9.334 kilometers; 5.800 miles** Azimuth from point 1 to point 2 = 255.27° Azimuth from point 2 to point 1 = 75.18°
Target #2	Distance between N Latitude 47 27 20.05, E Longitude 19 20 54.07 (Point 1) and N Latitude 47 23 8.48, E Longitude 18 55 23.77 (Point 2) **32.908 kilometers; 20.448 miles** Azimuth from point 1 to point 2 = 256.50° Azimuth from point 2 to point 1 = 76.19°
Target #3	Distance between N Latitude 47 27 20.05, E Longitude 19 20 54.07 (Point 1) and N Latitude 47 20 5.04, E Longitude 18 55 8.01 (Point 2) **35.003 kilometers; 21.750 miles** Azimuth from point 1 to point 2 = 247.59° Azimuth from point 2 to point 1 = 67.27°

	Place #2
Target #1	Distance between N Latitude 47 19 57.36, E Longitude 19 11 40.42 (Point 1) and N Latitude 47 26 3.00, E Longitude 19 13 41.97 (Point 2) **11.575 kilometers; 7.192 miles** Azimuth from point 1 to point 2 = 12.67° Azimuth from point 2 to point 1 = 192.70°
Target #2	Distance between N Latitude 47 19 57.36, E Longitude 19 11 40.42 (Point 1) and N Latitude 47 23 8.48, E Longitude 18 55 23.77 (Point 2) **21.267 kilometers; 13.215 miles** Azimuth from point 1 to point 2 = 286.21° Azimuth from point 2 to point 1 = 106.01°
Target #3	Distance between N Latitude 47 19 57.36, E Longitude 19 11 40.42 (Point 1) and N Latitude 47 20 5.04, E Longitude 18 55 8.01 (Point 2) **20.773 kilometers; 12.908 miles** Azimuth from point 1 to point 2 = 270.76° Azimuth from point 2 to point 1 = 90.55°

	Place #3
Target #1	Distance between N Latitude 47 25 33.61, E Longitude 18 51 46.23 (Point 1) and N Latitude 47 26 3.00, E Longitude 19 13 41.97 (Point 2) **27.504 kilometers; 17.090 miles** Azimuth from point 1 to point 2 = 87.97° Azimuth from point 2 to point 1 = 268.24°
Target #2	Distance between N Latitude 47 25 33.61, E Longitude 18 51 46.23 (Point 1) and N Latitude 47 24 8.08, E Longitude 18 55 23.77 (Point 2) **5.258 kilometers; 3.267 miles** Azimuth from point 1 to point 2 = 120.13° Azimuth from point 2 to point 1 = 300.18°
Target #3	Distance between N Latitude 47 25 33.61, E Longitude 18 51 46.23 (Point 1) and N Latitude 47 20 5.04, E Longitude 18 55 8.01 (Point 2) **10.990 kilometers; 6.829 miles** Azimuth from point 1 to point 2 = 157.40° Azimuth from point 2 to point 1 = 337.44°

Preview of the DF measurement places and target positions



Measured bearing values and error calculations

Place #1

	Measured value	Calculated value	Error
Target #1	253	255	2
Target #2	253	256	3
Target #3	245	247	2

Place #2

	Measured value	Calculated value	Error
Target #1	11	12	1
Target #2	290	286	4
Target #3	268	270	2

Place #3

	Measured value	Calculated value	Error
Target #1	85	87	2
Target #2	116	120	4
Target #3	155	157	2