

TTA-12H(S)

TERRAIN AWARENESS AND WARNING SYSTEM FOR HELICOPTERS

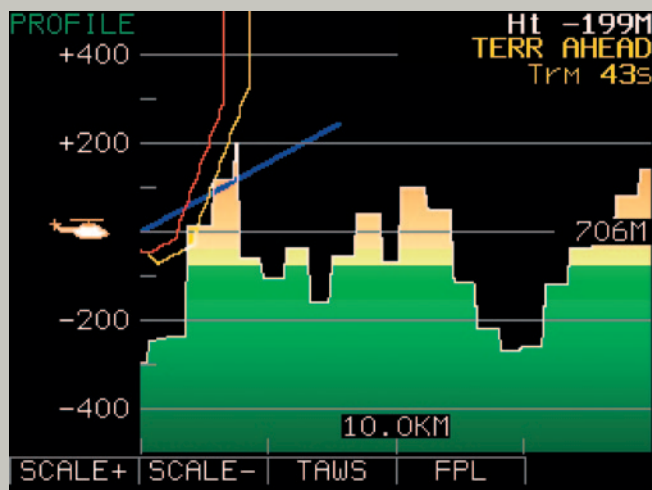
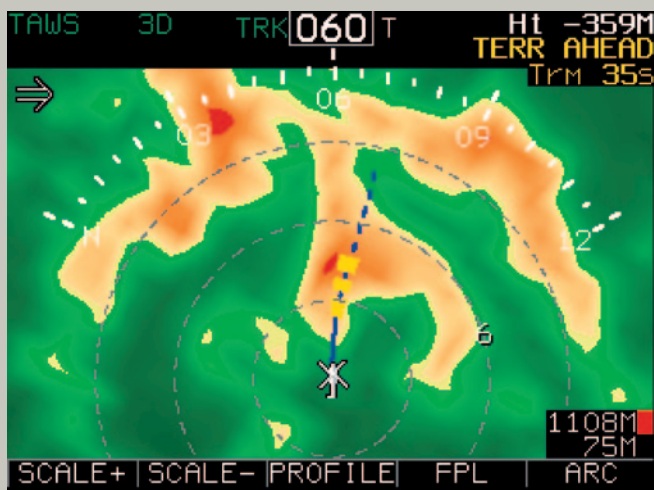
The system is intended for providing the flight crews with sufficient information and alerting allowing the potential danger of collision with the terrain or man-made obstacles to be identified in time, and effective measures to be taken in order to prevent the collision.



The flight safety is ensured owing to the operation of two independent groups of modes. The first group is based on the use of data from the GPS/GLONASS receiver and built-in database, and provides alerts 25-80 seconds before the terrain feature/obstacle. The second group of modes based on the analysis of data from the radio altimeter, pressure altimeter, true speed, bank, heading, pitch sensors, from the ILS system, alerts the crew to the exit beyond the envelopes

specified in the Flight Manual. The use of the high-speed channel for outputting the image of the terrain and obstacles ensures the unprecedented frame quality and refresh rate for this class of equipment. At the alert generation time, the feature representing a danger is highlighted on the display, and the obstacle clearance and time-to-fly data is provided. The system ensures safety from the take-off to landing without requiring the crew to take any steps to switch

the flight phases, including the take-off and landing from/on the unfitted-out area. To rule out the nuisance alerts during special operations close to the terrain, the system sensitivity can be reduced by switching it over to the low altitude flight mode. In a flight with an external load, the particular sling length can be set, which enables the timely crew alerting to the potentially hazardous situation.



MAIN TECHNICAL CHARACTERISTICS

DIMENSIONS AND WEIGHT	POWER SUPPLY
156x64x165 mm; 1,1 kg (TTA-12H), 1,3 kg (TTA-12HS)	27 V, 15 W

STABILITY TO RISK FACTORS
KT/160D [B4/A4]XBAB[SGU/(BA)(B1A)]XXXXXSAAAZZ[RR]LXXXX

INTERFACE

ARINC 429	ARINC 646 (ETHERNET)	RS-232	ONE-TIME COMMANDS
4 inputs/2 outputs	1 channel	1 channel	6 inputs/8 outputs

DATABASES	MTBF	GUARANTY
Digital relief model 6x6 seconds of arc. Artificial hazards database, aeronautical database	10000 flight hours	3 years

OPERATION MODES
<ul style="list-style-type: none"> • Mode 1 "Excessive rate of descent" • Mode 2 "Dangerous closure rate to terrain" • Mode 3 "Descent after take-off". • Mode 4 "Insufficient vertical clearance". • Mode 5 "Excessive downward deviation from ILS glideslope". • Mode 6 "Check of pressure altitude". • Mode 7 "Forward looking terrain awareness function (landscape, artificial, hazards)". • Mode 8 "Voice callouts" • Mode 9 "Passing of certain preset altitudes". • Mode 10. "Excessive banking angle". • Mode 11. "Excessive pitch angle". • Mode 12. "Danger of hitting vortex ring".