ROCS for TPQ-36/37 Radars

TPQ-36/37 radars, fielded in 1981, are excellent battlefield proven Radar Systems. The Radar Operational Control System (ROCS) made by BES Electronic Systems, with its digital Processors and Software revives these outstanding radars with advanced computer technology at a minimum of cost.

Most of the TPQ-36/37 radars operating in the world, have no DTED Map Cassettes, needed for 'Automatic Height Correction (AHC) .Operators must use the radar DRUM and paper maps for Manual Height Correction, in order to locate enemy Mortars and Artillery. As a result Weapon Location process is slow and limits the number of detected Weapons to 2-3 per minute. The existing AHC function does not exploit the full detection capability of the radar. Users must process each target manually before relaying its coordinates (usually via voice). This reduces the number of detected targets transferred to Batteries and Command and Control. Among other drawbacks of the legacy radar are the slow learning curve to achieve skills needed for efficient operation of the radar, poor debriefing capability, storage of small number of targets, and difficulty to connect the radar to C2 systems.

ROCS Salient Features

- ROCS is a Windows based System with Electronic maps, graphical displays and Menus.
- TPQ-36/37 Radar with a ROCS can locate, display and communicate 10 and more Weapons per minute.
- Radar with ROCS uses DTED Level-II for better accuracy of weapon locations.
- Automatic Initialization and high-speed radar programs loading from ROCS computer. (No Raymond Cassette).
- B Scope picture is displayed on each LCD screen.
- ROCS is made of six unique LRUs with two state of the art computers/processors.
- Radar Shelter with two built-in Work-Stations. Additional operators can join with their Laptops
- DRUM is replaced with two LCD screens. Weapon Locations and impacts are displayed on electronic map.
- ROCS Custom-made C2 protocol (replaces TACFIRE), to communicate radar data and targets to remote Command & Control, batteries, etc.
- TPQ-36/37 Radar with ROCS can store 500 targets.
- ROCS provides unlimited number of Artillery Zones with four priorities.
- ROCS stores 25 Batteries and 100 friendly rounds.
- Jammer display
- Option for full integration of Radar with Customer's C2.

ROCS New Console

Legacy Operation Console

- ROCS' 50Amps Power Supply/UPS, replaces the Legacy 28DC 17Amp Power Supply, to provide power to additional Radios and systems.
- Recording function for offline debriefing.
- ROCS supports various digital maps, such as; Geo-TIFF, Shape files, CADRG, etc'. The maps are based on various Datum. ROCS outputs Weapon locations and impacts in any coordinate system.
- High speed AHC using DTED Level II (30 meters between elevation points) to enhance accuracy of weapon location process.
- Shelter can be unmanned. Shelter remote Control using Laptops via LAN.
- 'On The Move Operation'.
- Remove unsupported assemblies such as Raymond Cassette, B-Scope, and Drum Assemblies are removed from the radar Windows XP interface, menus, screens and electronic maps.
- Changing the radar search sector would not require reload of Digital Map.
- Full operation and connectivity via radios to Batteries or Command & Control System when radar is on the move.
- Shelter GPS for updating Command & Control during 'On The Move'.

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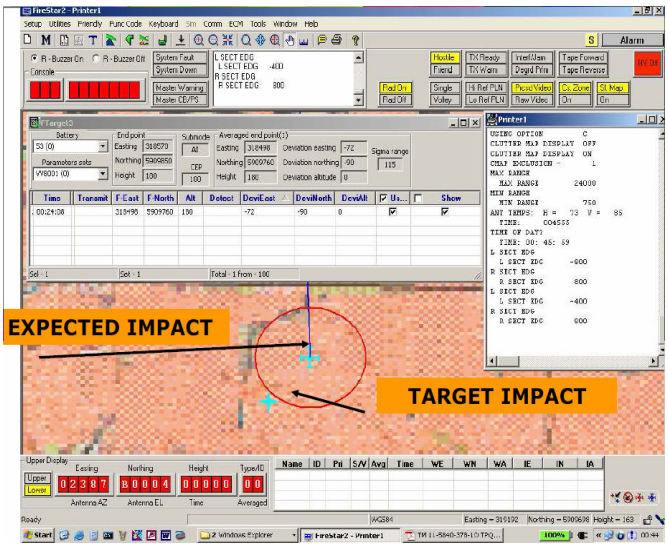
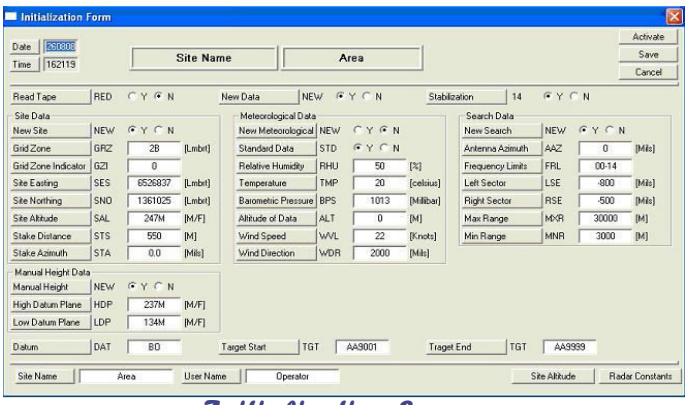
ROCS for TPQ-36/37 Radars

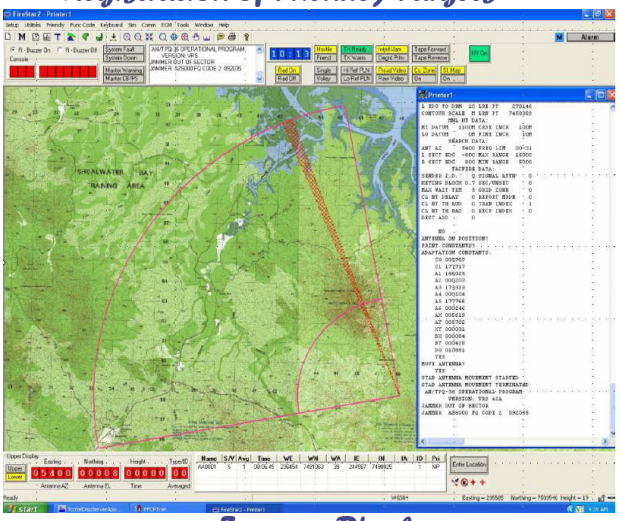
Modified Shelter



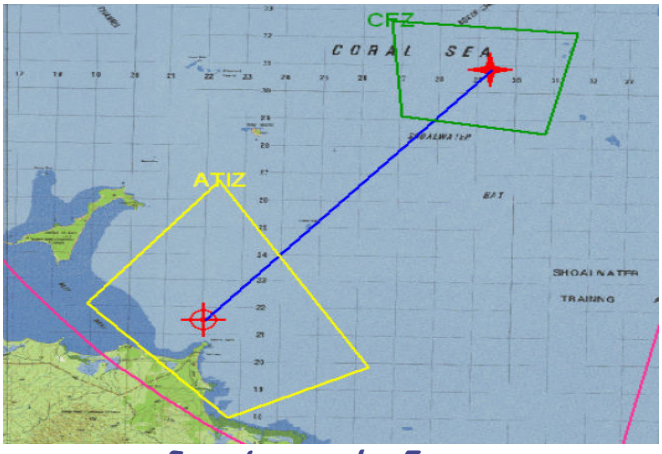
Registration of Friendly Targets



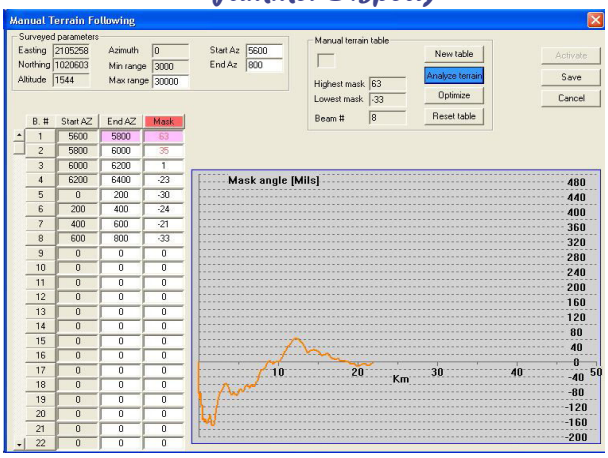
Initialization Screen



Jammer Display



Targets on radar Zones



Automatic Terrain Display

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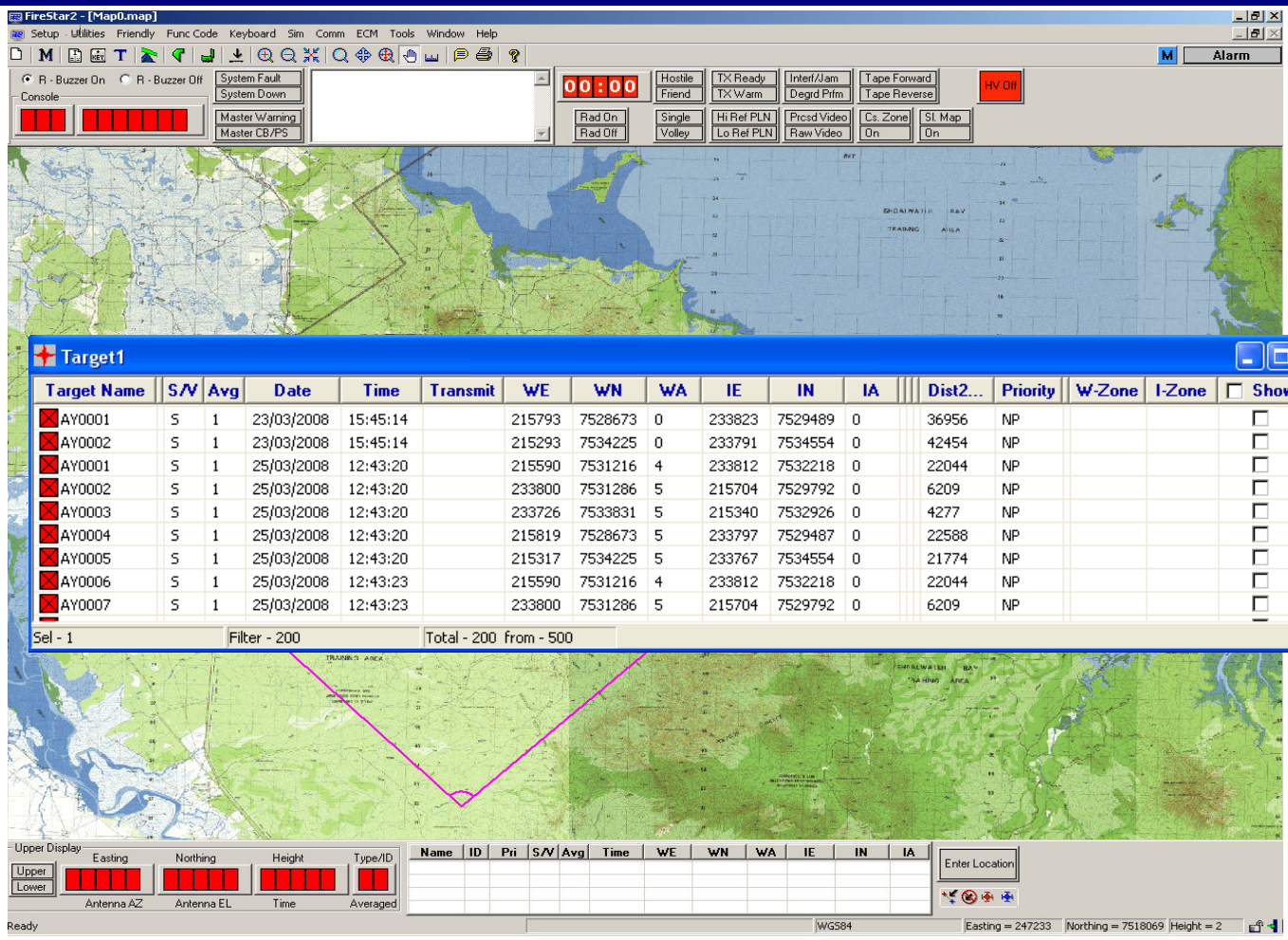
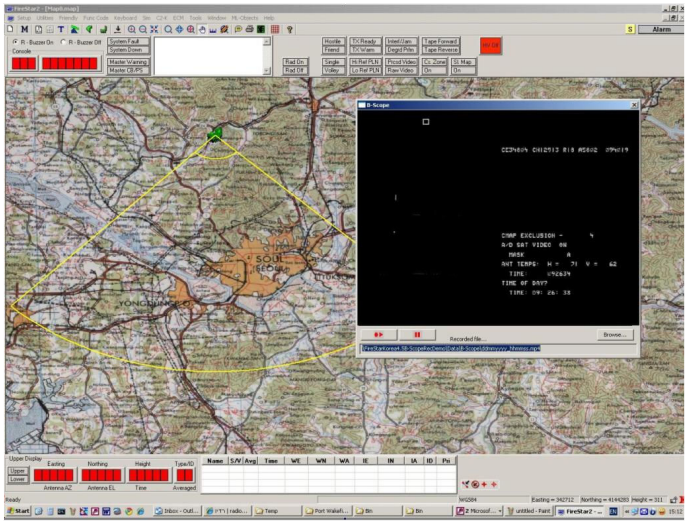
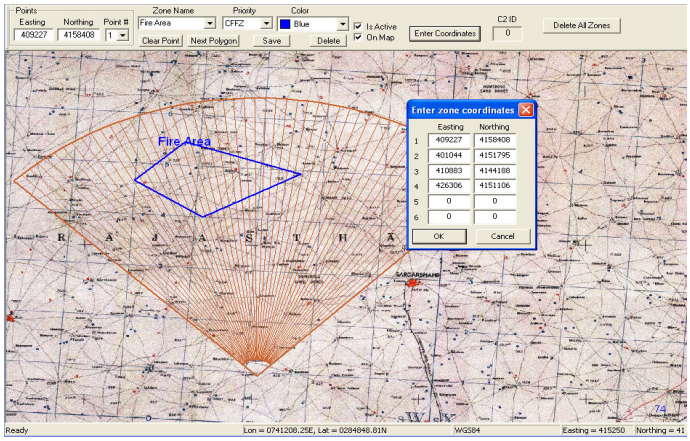


Artillery Targets Display



B-Scope Display



Define radar Zones

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Radar Shelter Upgraded with ROCS Kit

DESCRIPTION	SPECIFICATION
Operating temperature	The ROCS operates without degradation to its specification for a temperature range of -20ºC to 71°C. BARCO Displays -20ºC to +55ºC.
Non Operating Temperature	The ROCS shall not be damaged or suffer degradation in performance when restored to the operating temperature range, after being subjected to storage temperatures of -40° to 71°C.
Fungus Resistance	The ROCS is resistant to the effects of mould growth.
Vibration	The ROCS Equipment shall not be damaged or degraded by vibration sustained in the radar shelter, whether induced during handling and by vehicular transport over all types of roads or cross-country terrain and air, sea, rail logistical transportation.
Non Operational Shock	The ROCS operates as specified herein after being subjected to non-operational shock as encountered during vehicular transport over all types of roads or cross-country terrain and air, sea and rail logistical transportation. System LRUs intended for removal from radar set for repair and maintenance are capable of withstanding shock induced during servicing and bench handling.
Humidity	The ROCS maintains its specified performance when exposed to relative humidity of up to 95% for both continuous and intermittent periods, including conditions wherein condensation takes place in and on the System in the form of water.
Sand and Dust	The ROCS shall be resistant to the ingress of Sand and Dust.

ROCS System Environmental Specifications

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