1. **Course Title**

NATO X-Band Deployable Satellite Ground Terminal (DSGT) Operator Level II

2. **Identification Number (ID)**

0041

3. **Purpose of the Course**

To provide military and civilian personnel with knowledge and skills to perform field level preventive and corrective maintenance for the NATO DSGT Equipment. Repair actions are limited to the replacement of the Lowest Replaceable Unit (LRU) sub-assembly. Maintenance level will be to level 2 without supervision and assist CSSC Technicians in level 3 operations. This will reduce the interventions required by the CSSC and extend the duration between required Preventative Maintenance Inspections and enhancing the overall internal capability of the end users.

4. **Learning Objectives**

Upon completion of the course, the qualified student will be able to perform Level II preventive and corrective maintenance on the DSGT equipment, including but not limited to: Basic calibration (e.g. setting limit switches, beacon receiver adjustments, etc.), Monitor & Control operation & maintenance, Power measurements, modem firmware upgrades, Antenna Control Unit configuration & system fault finding.

5. **Qualification**

NATO SATCOM DSGT Operator Level II

6. **Student Criteria**

1. Been assigned to a NATO or National Signal Establishment with the role of technician or operator,
2. Successfully completed the DSGT Operator Course 0040 and have 6 months practical experience using the DSGT in the field,
3. Have met the Background Knowledge Prerequisites (see item 16: Student has to complete the SATCOM basics (ID 601) course (pre-course study material) at [https://jadl.act.nato.int/](https://jadl.act.nato.int/). There will be an entry exam upon arrival. Questions are taken from the above on-line training and from the DSGT Operator Level I (0040) training.),
4. Knowledge of the general safety procedures for working with hazardous voltages.

7. **Rank**

- Officers
- NCO’s
- Civilian technicians and engineers
8. Language Proficiency
Language Proficiency according to STANAG 6001: English SLP 3232 and a detailed knowledge of the applicable English electronic terminology.

9. Security Clearance
NATO SECRET

10. Course Length
5 working days

11. Special Instructions
N/A

12. Class Size
- Maximum
- Recommended
- Minimum
6/6/3

13. Nomination Procedures
See joining instructions and nomination procedure on www.nciss.nato.int

14. Pre-course Study Material
Student has to complete the SATCOM basics (ID 601) course at https://jadl.act.nato.int/ There will be an entry exam on arrival. Questions are taken from the above on-line training and from the DSGT Operator level I (0040) training.

15. Location
The course is normally conducted at the NATO Communications and Information Systems School (NCISS), Latina Italy. Mobile training is possible and must be coordinated IAW established guidelines.

16. Background Knowledge Prerequisites
- Completion of the ADL Course ID 601- SATCOM Basics Ver 3.0 is mandatory
- Successful completion of the DSGT Operator Course 0040 with minimum 6 months practical experience using the DSGT in the field is mandatory

I. BASIC MATHEMATICS
1. Simple algebraic equations, functions exponential & logarithms.
2. Decibel Notation (dB, dBW & dBm).
II. THEORETICAL KNOWLEDGE BY TECHNICAL SUBJECT

A. ELECTRICITY
1. Direct Current (DC) - Ohm's law. Units of measurements for voltage, current & resistance.
2. Alternate Current (AC) - Wave shapes, Peak Values, rms Values.
3. DC/AC power – Impedance.

B. ELECTRONICS
1. Passive components (resistors, capacitors, inductors) fixed and variable.
3. UPS.

C. TELECOMMUNICATIONS - PRINCIPLES AND TECHNIQUES.
1. RF basics.
2. Multiplexing basics (TDM, FDM).
3. Modulation – BPSK, QPSK and 8PSK.
4. Error detection / correction techniques
5. Antenna and propagation basics.

D. READING AND INTERPRETING ELECTRONIC / ELECTRICAL CIRCUITS AND INTERCONNECTION DIAGRAMS.

E. PRACTICAL EXPERIENCE BY FIELD OF ACTIVITIES - USE OF TEST EQUIPMENT.
1. Digital Multi-meter.
2. Digital Data Tester & Data generator - Analyser.
4. Earth resistance measurements.

17. Modules
N/A