1. Course Title

Deployable Optical Fibre Cable

2. Identification Number (ID)

023

3. Purpose of the Course

To provide Military and Civilian personnel from NATO and Partners Nations with the knowledge and skills to:

- install and maintain indoor and outdoor fibre optical connections
- install and maintain indoor and outdoor fibre optical network
- perform tailored practice using terminations for NATO units and Theatre users
- perform hands on practice using Fiber Optic (FO) test instruments
- execute basic network performance testing

4. Learning Objectives

Upon completion of the course, the qualified student will be able to:

- install and maintain indoor and outdoor fibre optical networks
- terminate MM fibre cable using ST/PC, SC/PC fibre optics connectors applying standards procedures
- perform hands on/practice in a FO lab using different termination techniques: 3M HOT MELT, AMP LIGHT CRIMP, 3M CRIP LOCK - all of them for ST & SC connectors
- perform MM/SM fusion splices using level 5 machines
- perform mechanical splices
- perform Optical Time Domain Reflectometer (OTDR) testing for MM/SM fibre optic infrastructures
- estimate the optical budget in a fibre optical infrastructure

5. Qualification

- Optical Fibre Cable Technician

6. Student Criteria

- Be assigned or about to be assigned to a NATO/National appointment within an Optical Fibre Cable Team
NATO Communications and Information Systems School

- Have successfully completed a national military course on basic telecommunications principles
- Knowledge of general safety procedures for working with telecommunications equipment
- Have met the Background Knowledge Prerequisites for this course

7. Rank
- Selected officer or NCO
- Enlisted
- Civilian equivalent

8. Language Proficiency
- According to STANAG 6001: English SLP 3232

9. Security Clearance
- NATO UNCLASSIFIED

10. Course Length
- 10 working days (2 weeks of 5 days each)

11. Special Instructions
- N/A

12. Class Size
- Maximum
- Recommended
- Minimum
- 8/8/3

13. Nomination Procedures
- www.nciss.nato.int

14. Pre-course Study Material
Student has to attend the ADL Course 606 Digital Communication
https://jadl.act.nato.int/
See ADL Joining Instructions at http://www.nciss.nato.int/ADL_joining_instruction.php
15. Location

- The course is conducted at the NATO Communications and Information Systems School (NCISS), Latina, Italy.

16. Background Knowledge Prerequisites

I. THEORETICAL KNOWLEDGE OF "APPLIED MATHEMATICS"

- Basic algebraic equations, Logarithm
- Basic trigonometry (Sine, Cosine, Tangent)
- Decibel Notation (dB, dBm)

II. THEORETICAL KNOWLEDGE BY TECHNICAL SUBJECT.

A. BASIC ELECTRICITY

- Direct Current (dc) – Ohm’s law. Units of measurement of voltage, current, resistance, power
- Alternate Current (ac) – Peak Values, RMS Values

B. BASIC ELECTRONICS

- Passive components (resistors capacitors, inductors)
- Solid State (diode, transistors, LEDs)
- Devices – Analog (power supplies, amplifiers, oscillator, tuned circuits)
- Devices – Digital (gates: AND, OR, XOR, Inverters)

C. BASIC TELECOMMUNICATIONS AND INFORMATION SYSTEMS – PRINCIPLES AND TECHNIQUES

- Principles of multichannel telephony
- Lines Codes (PCM, E1, E2)
- LAN / WAN Topologies
- LAN networking devices (hub, switch)
- WAN networking devices (routers)

III. PRACTICAL EXPERIENCE BY FIELD OF ACTIVITIES

A. USE / UNDERSTANDING OF TEST EQUIPMENT

- Multimeter
- Oscilloscope

B. Repair / Maintenance and Measurements (min. 3 months experience)

- LAN installations
- Telecommunications equipment installation / maintenance