

### 1051. cont'd.

c. 8. Being packet switches, circuit switches and routers with ports or lines exceeding either:

- a. A "data signalling rate" of 64,000 bit/s per channel for a "communications channel controller"; or

**Note:**

1051.c.8.a. does not preclude the multiplexing over a composite link of communications channels not embargoed by 1051.c.8.a.

- b. A "digital transfer rate" of 33 Mbit/s for a "network access controller" and related common medium;
  9. "Optical switching";
  10. Employing "Asynchronous Transfer Mode" ("ATM") techniques;
  11. Containing "stored programme controlled" digital crossconnect equipment with a "digital transfer rate" exceeding 8.5 Mbit/s per port;
- d. Centralized network control having both of the following characteristics:
1. Receives data from the nodes; and
  2. Processes these data in order to provide control of traffic not requiring operator decisions, thereby performing "dynamic adaptive routing";

**Note:**

1051.d. does not preclude control of traffic as a function of predictable statistical traffic conditions.

e. Optical fibre communication cables, optical fibres and accessories, as follows:

1. Optical fibres or cables of more than 50 m in length having either of the following characteristics:

- a. Designed for single mode operation; or
- b. For optical fibres, specified by the manufacturer as being capable of withstanding a proof test tensile stress of  $2 \times 10^9$  N/m<sup>2</sup> or more;

**Technical Note:**

*Proof Test: on-line or off-line production screen testing that dynamically applies a prescribed tensile stress over a 0.5 to 3 m length of fibre at a running rate of 2 to 5 m/s while passing between capstans approximately 150 mm in diameter. The ambient temperature is a nominal 293 K and relative humidity 40%.*

**N.B.** Equivalent national standards may be used for executing the proof test

2. Optical fibre cables and accessories designed for underwater use; (For fibre-optic hull penetrators or connectors, see 1081.2.c.)
- f. Phased array antennae, operating above 10.5 GHz, containing active elements and distributed components, and designed to permit electronic control of beam shaping and pointing, except those for landing systems with instruments meeting ICAO standards (microwave landing systems (MLS)).

### 1052. Test, Inspection and Production Equipment

- a. Equipment, and specially designed components and accessories therefor, specially designed for:
  1. Development of equipment, materials, functions or features embargoed by 1051., 1052., 1053., 1054. or 1055., including measuring or test equipment;
  2. Production of equipment, materials, functions or features embargoed by 1051., 1052., 1053., 1054. or 1055., including measuring, test or repair equipment;
  3. Use of equipment, materials, functions or features exceeding any of the least stringent embargo criteria applicable in 1051., 1052., 1053., 1054. or 1055., including measuring, test or repair equipment;

**Note:**

1052.a. does not embargo optical fibres and "optical fibre preform" characterization equipment not using semiconductor "lasers".

- b. Other equipment as follows:
  1. Bit error rate (BER) test equipment designed or modified to test the equipment embargoed in 1051.b.1.;
  2. Data communication protocol analyzers, testers and simulators specially designed for functions embargoed by 1051.;
  3. Stand alone "stored programme controlled" radio transmission media simulators/channel estimators specially designed for testing equipment embargoed by 1051.b.5.

### 1053. Materials

Preforms of glass or of any other material optimized for the manufacture of optical fibres embargoed by 1051.e.

### 1054. Software

- a. "Software" specially designed or modified for the "development", "production" or "use" of equipment or materials embargoed by 1051., 1052. or 1053.
- b. "Software" specially designed or modified to support "technology" embargoed by 1055.;
- c. Specific "software" as follows:
  1. "Generic software", other than in machine-executable form, specially designed or modified for the "use" of "stored programme controlled" digital switching equipment or systems;
  2. "Software", other than in machine-executable form, specially designed or modified for the "use" of digital cellular radio equipment or systems;
  3. "Software" specially designed or modified to provide characteristics, functions or features of equipment embargoed by 1051. or 1052.;
  4. "Software" which provides the capability of recovering "source code" of telecommunications "software" embargoed by this Category;
  5. "Software" specially designed for the "development" or "production" of "software" embargoed by 1054. (For "software" for "signal processing" see also 1044. and 1064.)

### 1055. Technology

- a. Technology according to the General Technology Note for the "development", "production" or "use" (excluding operation) of equipment, systems, materials or "software" embargoed by 1051., 1052., 1053. or 1054.;
- b. Specific technologies, as follows:
  1. "Required" technology for the "development" or "production" of telecommunications equipment specially designed to be used on board satellites;
  2. Technology for the "development" or "use" of "laser" communication techniques with the capability of automatically acquiring and tracking signals and maintaining communications through exoatmosphere or sub-surface (water) media;
  3. Technology for the processing and application of coatings to optical fibre specially designed to make it suitable for underwater use;
  4. Technology for the "development" or "production" of equipment employing "Synchronous Digital Hierarchy" ("SDH") or "Synchronous Optical Network" ("SONET") techniques;
  5. Technology for the "development" or "production" of "switch fabric" exceeding 64,000 bit/s per information channel other than for digital cross connect integrated in the switch;
  6. Technology for the "development" or "production" of centralized network control;
  7. Technology for the "development" or "production" of digital cellular radio systems;
  8. Technology for the "development" or "production" of "Integrated Services Digital Network" ("ISDN").
  9. Technology for the "development" of QAM techniques, for radio equipment, above level 4.

## 1150. Information Security

**Note:**

The embargo status of "information security" equipment, "software", systems, application specific "assemblies", modules, integrated circuits, components or functions is defined in this Category even if they are components or "assemblies" of other equipment.

### 1151. Equipment, Assemblies and Components

Systems, equipment, application specific "assemblies", modules or integrated circuits for "information security", as follows, and other specially designed components therefor:

- a. Designed or modified to use "cryptography" employing digital techniques to ensure "information security";
- b. Designed or modified to perform cryptanalytic functions;
- c. Designed or modified to use "cryptography" employing analogue techniques to ensure "information security", except: