

d. "Software" specially designed and technology "required" for the equipment described in a., b. or c. above, embargoed by 1064. or 1065.

15. Governments may permit, as administrative exceptions, the shipment to the People's Republic of China of:

a. "Tunable" pulsed flowing-dye "lasers" having all of the following, and specially designed components therefor:

1. An output wavelength less than 800 nm;
2. A "pulse duration" not exceeding 100 ns; and
3. A peak output power not exceeding 15 MW;

b. CO<sub>2</sub> or CO/CO<sub>2</sub> "lasers" having an output wavelength in the range from 9,000 to 11,000 nm and having either:

1. A pulsed output not exceeding 2 J per pulse and a maximum rated average single or multimode output power not exceeding 5 kW; or
2. A CW maximum rated single or multimode output power not exceeding 10 kW;

c. CO "lasers" having a CW maximum rated single or multimode output power not exceeding 10 kW.

16. Governments may permit, as administrative exceptions, the shipment, for civil applications, of "lasers", as follows:

a. Neodymium-doped (other than glass), pulse-excited, "Q-switched lasers" embargoed by 1061.5.c.2.c.2.b. having:

1. A pulse duration equal to or more than 1 ns; and
2. A multiple-transverse mode output with a "peak power" not exceeding 400 MW;

b. Neodymium-doped (other than glass) "lasers" embargoed by 1061.5.c.2.c.3.b. or 1061.5.c.2.c.4.b.:

1. Having:
  - a. An output wavelength exceeding 1,000 nm but not exceeding 1,100 nm; and
  - b. An average or CW output power not exceeding 2 kW; and
2. Being:

- a. Pulse-excited, non-"Q-switched" multiple-transverse mode; or
- b. Continuously excited, multiple-transverse mode;

c. Carbon dioxide "lasers" embargoed by 1061.5.a.4.:

1. Being in CW multiple-transverse mode; and
2. Having a CW output power not exceeding 15 kW.

17. Governments may permit, as administrative exceptions, the shipment of optical equipment embargoed by 1061.5.g. when intended for use with unembargoed "lasers" or embargoed "lasers" the export of which has been authorised by the Committee.

#### MAGNETOMETERS

18. Governments may permit, as administrative exceptions, the shipment to the Czech Republic, Poland, and Slovak Republic of everything embargoed by 1061.6., and "software" specially designe and technology "required" therefor embargoed by 1064. or 1065.

#### GRAVIMETERS

19. Governments may permit, as administrative exceptions, the shipment to the Czech Republic, Poland, and Slovak Republic of everything embargoed by 1061.7. or 1062.7., and "software" specially designed and technology "required" therefor embargoed by 1064. or 1065.

#### RADAR

20. Governments may permit, as administrative exceptions, the shipment to the Czech Republic, Poland, and Slovak Republic, for purposes such as air traffic control, of radar equipment embargoed by 1061.8 or 1062.8, and "software" specially designed and technology "required" therefor embargoed by 1064. or 1065.

21. Governments may permit, as administrative exceptions, the shipment of ground radar equipment specially designed for enroute air traffic control, and "software" specially designed for the "use" thereof, provided:

- a. It is embargoed by 1061.8.i.;
- b. It has a maximum "instrumented range" of 500 km or less;
- c. It is configured so that the radar target data can be transmitted only one way from the radar site to one or more civil ATC centres;
- d. It contains no provisions for remote control of the radar scan rate from the enroute ATC centre; and
- e. It is to be permanently installed under the supervision of the exporter or the exporter's Western agent, so that the

"instrument range" and volumetric coverage of the radar encompasses an ICAO air route.

#### N.B.

The "use" "software" must be limited to "object code" and the minimum amount of "source code" necessary for installation, operation or maintenance.

22. Governments may permit, as administrative exceptions, the shipment of ATC "software" application "programmes" embargoed by 1064.3.h.1., provided:

- a. The number of "system tracks" does not exceed 700;
- b. The number of primary radar inputs does not exceed 32; and
- c. The "software" is further limited to "object code" and the minimum amount of "source code" necessary for installation, operation or maintenance.

### 1070. NAVIGATION AND AVIONICS

#### 1071. EQUIPMENT, ASSEMBLIES AND COMPONENTS

1071. 1. Accelerometers designed for use in inertial navigation or guidance systems and having any of the following characteristics, and specially designed components therefor:

- a. A "bias" "stability" of less (better) than 130 micro g with respect to a fixed calibration value over a period of one year;
- b. A "scale factor" "stability" of less (better) than 130 ppm with respect to a fixed calibration value over a period of one year;
- c. Specified to function at linear acceleration levels exceeding 100 g;

1071. 2. Gyros having any of the following characteristics, and specially designed components therefor:

- a. A "drift rate" "stability", when measured in a 1 g environment over a period of three months and with respect to a fixed calibration value, of:
  1. Less (better) than 0.1° per hour when specified to function at linear acceleration levels below 10 g; or
  2. Less (better) than 0.5° per hour when specified to function at linear acceleration levels from 10 to 100 g inclusive;
- b. Specified to function at linear acceleration levels above 100 g;

1071. 3. Inertial navigation systems (gimballed and strapdown) and inertial equipment for attitude, guidance or control having any of the following characteristics, and specially designed components therefor:

- a. For "aircraft":
  1. Navigation error (free inertial) of 0.8 nautical mile per hour (50% Circular Error Probable (CEP)) or less (better) subsequent to normal alignment;
  2. Not certified for use on "civil aircraft" by civil aviation authorities of a member country; or
  3. Specified to function at linear acceleration levels exceeding 10 g;
- b. For land or "spacecraft":
  1. Navigation error (free inertial) of 0.8 nautical mile per hour (50% CEP) or less (better) subsequent to normal alignment; or
  2. Specified to function at linear acceleration levels exceeding 10 g;

1071. 4. Gyro-astro compasses, and other devices which derive position or orientation by means of automatically tracking celestial bodies or satellites, with an azimuth accuracy of equal to or less (better) than 5 seconds of arc;

1071. 5. Global Positioning Satellite (GPS) receiving equipment having either of the following characteristics, and specially designed components therefor:

- a. Employing encryption/decryption; or
- b. A null-steerable antenna;

1071. 6. Airborne altimeters operating at frequencies other than 4.2 to 4.4 GHz inclusive, having either of the following characteristics:

- a. "Power management"; or
- b. Using phase shift key modulation.

(For automatic pilots for underwater vehicles, see Category 1080. For radar, see Category 1060. For inertial navigation equipment for ships or submersibles, see Item 2009.f. on the Munitions List.)