

2. Governments may permit, as administrative exceptions, the shipment of the following cryptographic equipment, provided they are reasonably satisfied that the equipment is intended for civil use:
 - a. Access control equipment, such as automatic teller machines, self-service statement printers or point of sale terminals, which protects password or personal identification numbers (PIN) or similar data to prevent unauthorized access to facilities but does not allow for encryption of files or text, except as directly related to the password or PIN protection;
 - b. Data authentication equipment which calculates a Message Authentication Code (MAC) or similar result to ensure no alteration of text has taken place, or to authenticate users, but does not allow for encryption of data, text or other media other than that needed for the authentication;
 - c. Cryptographic equipment specially designed, developed or modified for use in machines for banking or money transactions, such as automatic teller machines, self-service statement printers, point of sale terminals, or equipment for the encryption of interbanking transactions, and intended for use only in such applications.
3. Governments may permit, as administrative exceptions, the shipment of the following cryptographic "software":
 - a. "Software" required for the "use" of equipment eligible for Administrative Exceptions under Notes 1 and 2;
 - b. "Software" providing any of the functions of equipment eligible for Administrative Exceptions under Notes 1 and 2.

1060. SENSORS AND LASERS

1061. EQUIPMENT, ASSEMBLIES AND COMPONENTS

1061. 1. ACOUSTICS

1061. 1. a. Marine acoustic systems, equipment or specially designed components therefor, as follows:
 1061. 1. a. 1. Active (transmitting or transmitting-and-receiving) systems, equipment or specially designed components therefor, as follows:

NOTE:
1061.1.a.1. does not embargo depth sounders operating vertically below the apparatus, not including a scanning function exceeding $\pm 10^\circ$, and limited to measuring the depth of water, the distance of submerged or buried objects or fish finding.
 1061. 1. a. 1. a. Wide-swath bathymetric survey systems for sea bed topographic mapping:
 1. Designed:
 - a. To take measurements at an angle exceeding 10° from the vertical; and
 - b. To measure depths exceeding 600 m below the water surface; and
 2. Designed:
 - a. To incorporate multiple beams any of which is less than 2° ; or
 - b. To provide data accuracies of better than 0.5% of water depth across the swath averaged over the individual measurements within the swath;
 1061. 1. a. 1. b. Object detection or location systems having any of the following:
 1. A transmitting frequency below 10 kHz;
 2. Sound pressure level exceeding 224 dB (reference 1 micropascal at 1 m) for equipment with an operating frequency in the band from 10 kHz to 24 kHz inclusive;
 3. Sound pressure level exceeding 235 dB (reference 1 micropascal at 1 m) for equipment with an operating frequency in the band between 24 kHz and 30 kHz;
 4. Forming beams of less than 1° on any axis and having an operating frequency of less than 100 kHz;
 5. Designed to withstand pressure during normal operation at depths exceeding 1,000 m and having transducers:
 - a. Dynamically compensated for pressure; or

- b. Incorporating other than lead zirconate titanate as the transduction element; or
6. Designed to measure distances to objects at ranges exceeding 5,120 m;

1061. 1. a. 1. c. Acoustic projectors, including transducers, incorporating piezoelectric, magnetostrictive, electrostrictive, electrodynamic or hydraulic elements operating individually or in a designed combination, having any of the following:

NOTE:

The embargo status of acoustic projectors, including transducers, specially designed for other equipment is determined by the embargo 1 status of the other equipment.

1061. 1. a. 1. c. 1. An instantaneous radiated acoustic power density exceeding $0.01 \text{ mW/mm}^2/\text{Hz}$ for devices operating at frequencies below 10 kHz;
2. A continuously radiated acoustic power density exceeding $0.001 \text{ mW/mm}^2/\text{Hz}$ for devices operating at frequencies below 10 kHz;

Technical Note:

Acoustic power density is obtained by dividing the output acoustic power by the product of the area of the radiating surface and the frequency of operation.

3. Designed to withstand pressure during normal operation at depths exceeding 1,000 m; or
4. Side-lobe suppression exceeding 22 dB;

NOTE:

1061.1.a.1.c. does not embargo electronic sources which direct the sound vertically only, or mechanical (e.g., air gun or vapour-shock gun) or chemical (e.g., explosive) sources.

1061. 1. a. 1. d. Acoustic systems, equipment or specially designed components for determining the position of surface vessels or underwater vehicles designed:

NOTE:

1061.1.a.1.d. includes equipment using coherent "signal processing" between two or more beacons and the hydrophone unit carried by the surface vessel or underwater vehicle, or capable of automatically correcting speed-of-sound propagation errors for calculation of a point.

1061. 1. a. 1. d. 1. To operate at a range exceeding 1,000 m with a positioning accuracy of less than 10 m rms (root mean square) when measured at a range of 1,000 m; or
2. To withstand pressure at depths exceeding 1,000 m;

1061. 1. a. 2. Passive (receiving, whether or not related in normal application to separate active equipment) systems, equipment or specially designed components therefor, as follows:

- a. Hydrophones (transducers) with any of the following characteristics:

1. Incorporating continuous flexible sensors or assemblies of discrete sensor elements with either a diameter or length less than 20 mm and with a separation between elements of less than 20 mm;
2. Having any of the following sensing elements:
 - a. Optical fibres;
 - b. Piezoelectric polymers; or
 - c. Flexible piezoelectric ceramic materials;
3. Hydrophone sensitivity better than -180 dB at any depth with no acceleration compensation;
4. When designed to operate at depths not exceeding 35 m, hydrophone sensitivity better than -186 dB with acceleration compensation;
5. When designed for normal operation at depths exceeding 35 m, hydrophone sensitivity better than -192 dB with acceleration compensation;
6. When designed for normal operation at depths exceeding 100 m, hydrophone sensitivity better than -204 dB; or
7. Designed for operation at depths exceeding 1,000 m;

Technical Note:

Hydrophone sensitivity is defined as twenty