

Image Cover Sheet

CLASSIFICATION

UNCLASSIFIED

SYSTEM NUMBER

513123



TITLE

Broadband Acoustic Transmission System \ (BATS\)

System Number:

Patron Number:

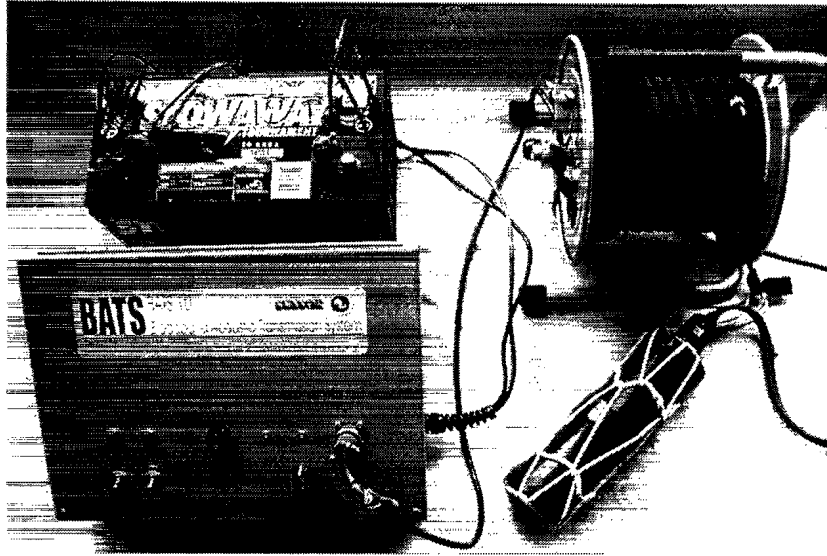
Requester:

Notes:

DSIS Use only:

Deliver to:





Broadband Acoustic Transmission System (BATS)

from Dennis Jones, Transducer Designer, DREA, jones@drea.dnd.ca

Recently, a broadband acoustic transmission system (BATS) for underwater acoustics applications was developed as a joint collaboration between the Defence Research Establishment Atlantic (DREA) in Dartmouth, Nova Scotia and Sensor Technology Limited in Collingwood, Ontario. The BATS consists of a unique 1-14 kHz Class III barrel-stave flextensional transducer driven by commercial audio components housed in a splash-proof control box which is supplied by a 12 volt marine battery. Input signals can be generated from a variety of audio devices including PC sound cards, CD players, and cassette players.

In the summer of 1999, cetacean biologists from the Whitehead Laboratory at Dalhousie University in Halifax, Nova Scotia used the BATS as a playback system to investigate vocal mimicry in long-finned pilot whales (*Globicephala melas*) in Cape Breton, Nova Scotia. Owing to its compact size, the BATS was easily stowed aboard and deployed from a 12 meter sailing yacht. In the year 2000, the BATS will be used off northern Chile to study possible dialects associated with the codas (repeated patterns of broadband clicks) produced by sperm whales (*Physeter macrocephalus*).

Photo: The BATS components include a marine battery, control box, cable and reel, and broadband flextensional transducer.

#513123