Emergency Warning Broadcasting System in Japan

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**EWBS** (Emergency Warning Broadcasting System)

- **Japan Meteorological Agency (JMA)**
  - TSUNAMI Warning
  - “Switch-on signal”
- **NHK**
- **Transmitting tower**

![Actual EWBS video](image-url)
Mechanism of EWBS

EWBS signal sent by broadcasting wave

- **start signal**: switches receivers on (if they are off)
- **end signal**: turns receivers off (if they were off before)

- **Analog TV & Radio**
  signals sent by 640Hz & 1024Hz audio frequency

- **Digital TV**
  signals sent by digital data defined at ISDB-T and ISDB-S
NHK Broadcasting Stations

Japan Meteorological Agency (JMA) 

EWBS Signal generator 

EWBS controller 

Switch 

TV or radio program 

News Center 

Tsunami Warning 

Transmitting tower
3 Types of Emergency Warning Broadcasts

<table>
<thead>
<tr>
<th>Classification</th>
<th>Broadcasting zone</th>
<th>Broadcasting media</th>
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</thead>
<tbody>
<tr>
<td>1 Warning of large-scale earthquake</td>
<td>Nationwide</td>
<td>All 8 NHK channels (TV &amp; radio)</td>
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<tr>
<td>2 Tsunami warning</td>
<td>Nationwide, or by prefecture or region</td>
<td>All 8 NHK channels (TV &amp; radio)</td>
</tr>
<tr>
<td>3 Broadcasting request about natural disaster from local government</td>
<td>By prefecture or region</td>
<td>General TV, Radio-1, FM</td>
</tr>
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</table>
History of EWBS in Japan

- 1980.02.23 Consultation by Radio Technical Council
- 1981.03.27 Consultation of basic EWBS by Radio Technical Council
- 1984.12.19 Ministry of Post and Telecommunications reaches agreement with broadcasting stations and other organizations
- 1985.06.01 EWBS legislation enacted
- 1985.09.01 NHK starts EWB on General-TV, Educational-TV, Radio-1 and -2 FM and BS-1
- 1986.12.25 NHK starts EWB on BS-2
- 1988.04.04 NHK starts EWB in English on sub-audio channel of General-TV, BS-1 and -2, and Radio-2
- 2007.12.01 NHK starts EWB in Chinese, Korean and Portuguese on its sub-audio channel of General-TV, BS-1 and -2, and Radio-2
Track record

- Emergency Warning Broadcasting has been aired 15 times in Japan.
- All of the broadcasts were tsunami warnings.

Prevalence of EWBS receivers

- Analog receivers (radio & TV) about 550,000 sets
- Digital TV about 200,000 sets
◆ Test Broadcasting at NHK
(First day of every month, 11:59:00 – 11:59:50, General-TV, Radio-1, FM)
- to promote EWBS
- to check EWBS receivers at homes
- to check EWBS equipment in broadcasting stations

◆ Everyday training for EWB, breaking news of earthquakes after the last newscast at NHK Tokyo News Center
◆ Matters to address
  ➢ promotion of EWBS receivers
    ✓ Analog radio  a few types are being sold
    ✓ Digital TV   some types are being sold
    ✓ mobile phones with One-Seg, digital EWBS TV receivers

◆ New development
  ➢ Earthquake Early Warning