



多周波電磁波観測システム

Multi Frequency EM Wave Sensor System

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植物生体電位観測

斉藤好晴

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Tree Bioelectric Potential (TBP) Observation

SAITO Yoshiharu



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特徴

Features

- 2周波同時観測(広島市大吉田教授)
 - LF, MF, HF, VHF, UHF
 - 地震性電磁波は単一周波数ではない
 - 近接する2波で同時に異常を観測すれば地震性の可能性が高い
 - 見通し外放送局受信(北大森谷教授)
 - VHF
 - 電離層の擾乱を観測する
 - LF帯 標準電波強度(電通大早川教授)
- 2 Frequencies Simultaneous Observation
 - Ref. Dr. YOSHIDA, Hiroshima City Univ.
 - LF, MF, HF, VHF, UHF
 - Easy to define EQ origin by measuring at near 2 freq. simultaneously
 - Over Horizon VHF Broadcast Station Receiving
 - Ref. Dr. MORIYA, Hokkaido Univ.
 - LF Band JJY Signal Strength
 - Ref. Dr. HAYAKAWA, Univ. of EC

観測周波数帯、感度

Observation Frequency Band, Sensitivity

- LF Band

120kHz and 140kHz , -100dBm (± 1 kHz/3dB)

- MF Band

505kHz and 525kHz , -100dBm(± 1 kHz/3dB)

- VHF Band

55MHz and 56MHz, -100dBm (± 10 kHz/3dB)

- Future Plan

HF, UHF Band

各周波数選択理由

Reason of Freq. Selection

- LF Band

空白帯

- MF Band

空白帯、放送周波数帯を避ける

- VHF Band

臨時放送中継用、行徳プロジェクトの近傍

- LF Band

Blank

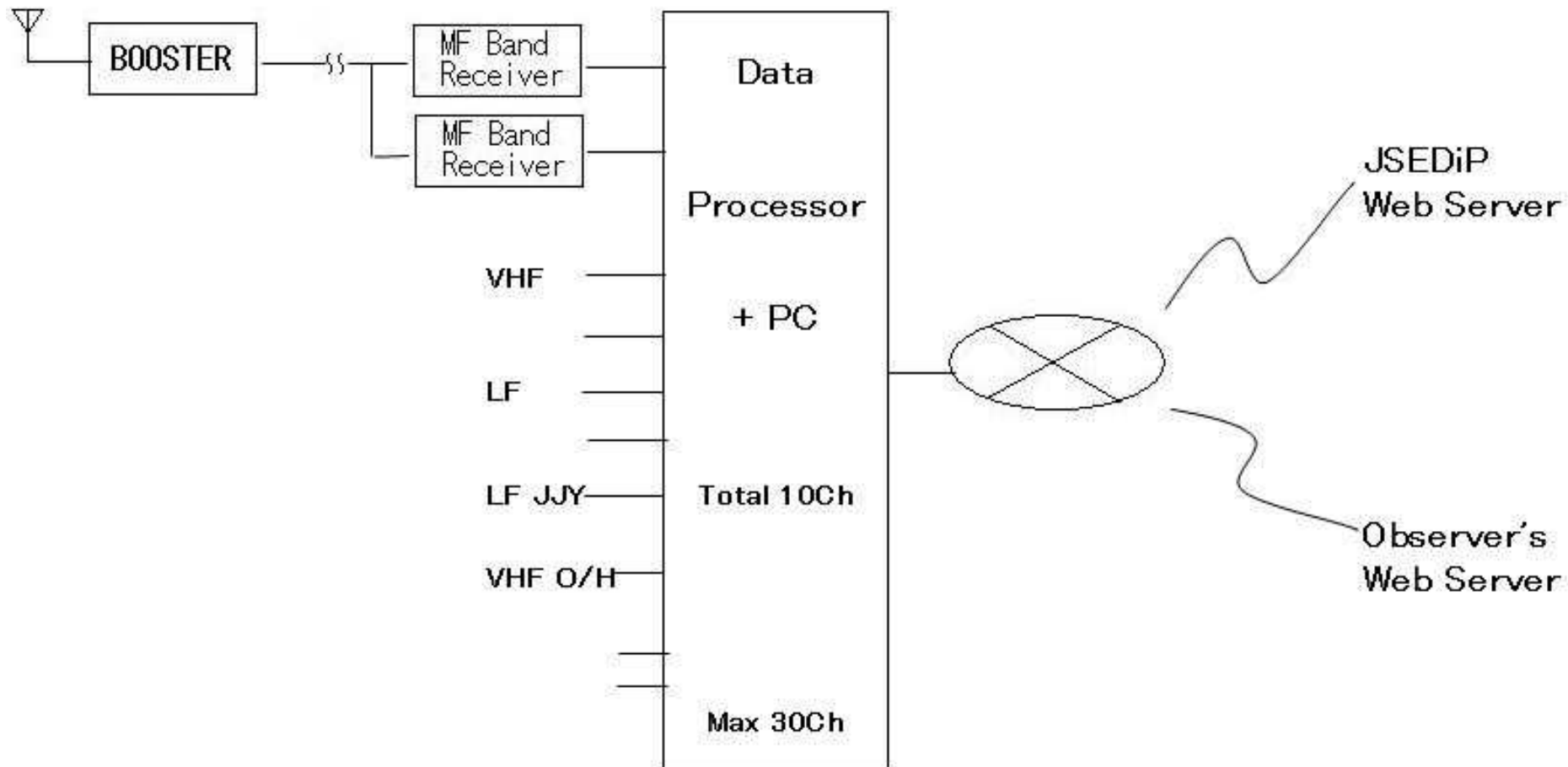
- MF Band

Blank, to avoid Broadcasting Freq.

- VHF Band

Temporary broadcast relay.
Near Gyotoku project

システム系統図 System Block Diagram





機能 Functions

- 10 Ch同時処理

- 入力電界(dBm)直接グラフ表示

- 受信音鳴動

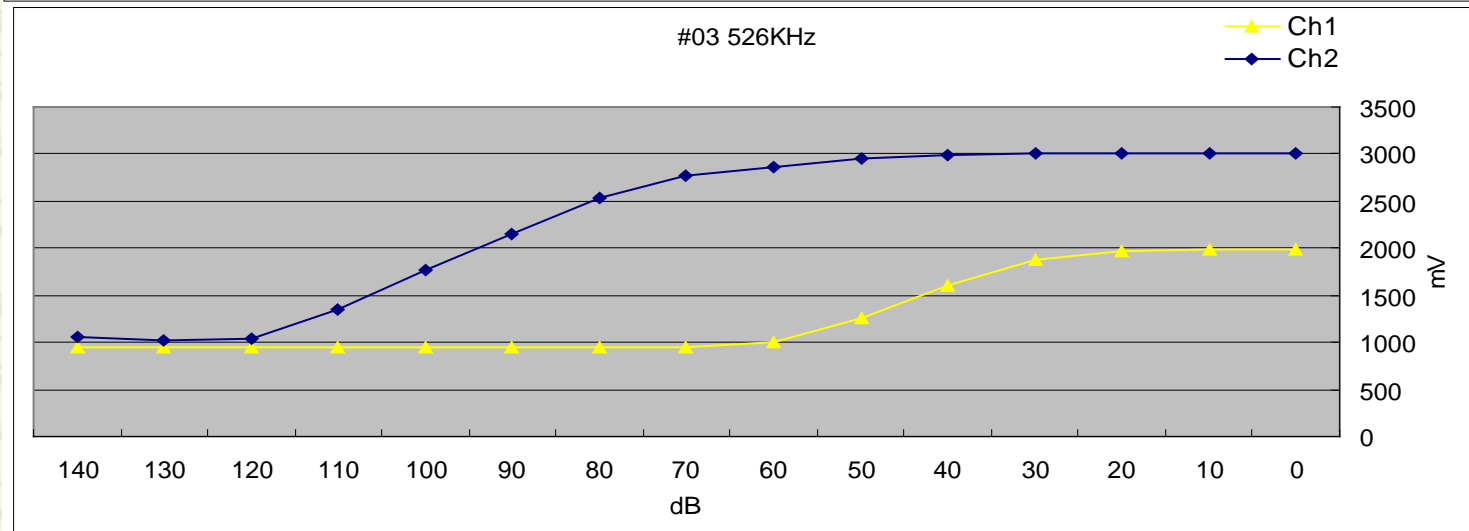
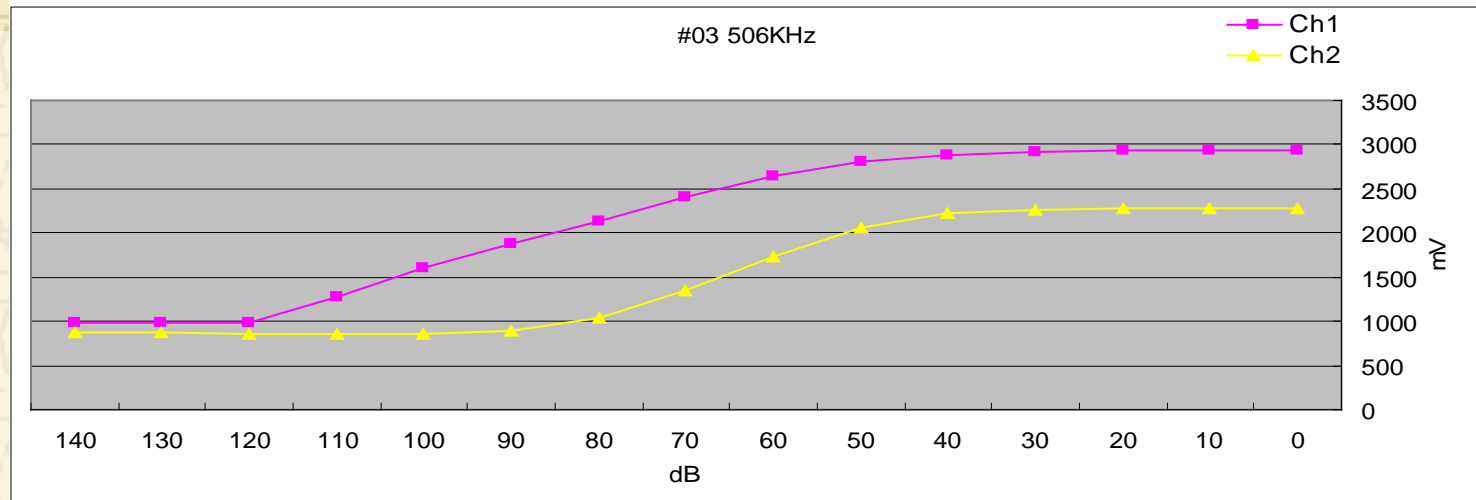
- Max. 10 Ch Simultaneous Processing

- Received signal graph display in dBm

- Received sound Recording

入出力特性

Input/Output Characteristics



装置外觀-1

Equipment External View -1



装置外觀-2

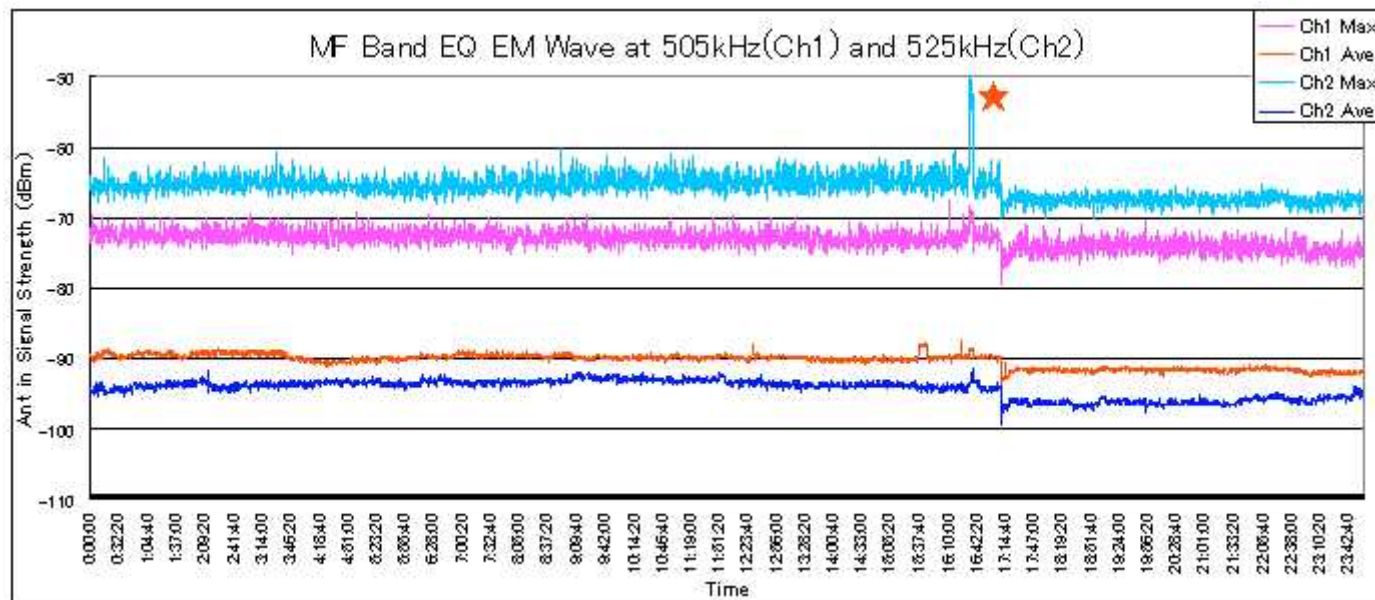
Equipment External View -2



異常例

Example of anomaly

- EQ Occurred : '09/10/25 05:55 Kyoto South (N35.1/E135.6) D=10km, M=4.0
- 10/24 at Kyoto Observation Post





お問い合わせ Contact

- SAITO Yoshiharu
- Japan Society of Ecology and Disaster Prevention (JSEDiP)
- <http://www.jsedip.jp/>
ID: 1010member27, Password: oct7
- e-mail : saito@jsedip.jp
- TEL : +81-42-705-7077
- FAX: +81-42-705-7088
- Skype Name: [tbp_skype](#)