

# (12) International Application Status Report

**Received at International Bureau:** 07 June 2017 (07.06.2017)

**Information valid as of:** 14 November 2018 (14.11.2018)

**Report generated on:** 24 April 2019 (24.04.2019)

**(10) Publication number:**

WO2018/220668

**(43) Publication date:**

06 December 2018 (06.12.2018)

**(26) Publication language:**

Japanese (JA)

**(21) Application Number:**

PCT/JP2017/019892

**(22) Filing Date:**

29 May 2017 (29.05.2017)

**(25) Filing language:**

Japanese (JA)

**(51) International Patent Classification:**

H03F 1/32 (2006.01); H03F 3/21 (2006.01)

**(71) Applicant(s):**

MITSUBISHI ELECTRIC CORPORATION [JP/JP]; 7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 1008310 (JP) (*for all designated states*)

**(72) Inventor(s):**

TORII, Takuma; c/o Mitsubishi Electric Corporation, 7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 1008310 (JP)  
HANGAI, Masatake; c/o Mitsubishi Electric Corporation, 7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 1008310 (JP)  
YAMANAKA, Koji; c/o Mitsubishi Electric Corporation, 7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 1008310 (JP)  
ISHIDA, Takao; c/o Mitsubishi Electric Corporation, 7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 1008310 (JP)  
EGUCHI, Shinichi; c/o Mitsubishi Electric Corporation, 7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 1008310 (JP)  
HATAMOTO, Mikio; c/o Mitsubishi Electric Corporation, 7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 1008310 (JP)

**(74) Agent(s):**

TAZAWA, Hideaki; Akasaka Sanno Center Bldg. 5F, 12-4, Nagata-cho 2-chome, Chiyoda-ku, Tokyo 1000014 (JP)

**(54) Title (EN):** POWER AMPLIFIER

**(54) Title (FR):** AMPLIFICATEUR DE PUISSANCE

**(54) Title (JA):** 電力増幅器

**(57) Abstract:**

**(EN):** The present invention is provided with a distortion compensation circuit (5) that amplifies the amplitude of a differential frequency component which is a component of a frequency difference  $f_d$  between a first frequency  $f_l$  and a second frequency  $f_h$  which are included in a first amplification signal output by a first amplifier (3), and that shifts the phase of the differential frequency component and applies the amplified and phase-shifted differential frequency component to an output terminal (4a) of a second amplifier (4), wherein a synthesis circuit (13) is configured to synthesize the first amplification signal output by the first amplifier (3) and a signal appearing at the output terminal (4a) of the second amplifier (4).

**(FR):** La présente invention concerne un circuit de compensation de distorsion (5) destiné à amplifier l'amplitude d'une composante de fréquence différentielle qui est une composante d'une différence de fréquence ( $f_d$ ) entre une première fréquence ( $f_l$ ) et une seconde fréquence ( $f_h$ ) qui sont comprises dans un premier signal d'amplification émis par un premier amplificateur (3), et à décaler la phase de la composante de fréquence différentielle et à appliquer la composante de fréquence différentielle amplifiée et déphasée à une borne de sortie (4a) d'un second amplificateur (4), un circuit de synthèse (13) étant configuré pour synthétiser le premier signal d'amplification émis par le premier amplificateur (3) et un signal apparaissant au niveau de la borne de sortie (4a) du second amplificateur (4).

**(JA):** 第1の増幅器(3)から出力された第1の増幅信号に含まれている第1の周波数  $f_l$  と第2の周波数  $f_h$  との差分の周波数  $f_d$  の成分である差分周波数成分の振幅を増幅するとともに、差分周波数成分の位相を移相し、増幅及び移相後の差分周波数成分を第2の増幅器(4)の出力端子(4a)に与える歪補償回路(5)を設け、合成回路(13)が、第1の増幅器(3)から出力された第1の増幅信号と、第2の増幅器(4)の出力端子(4a)に現れている信号とを合成するように構成する。

**International search report:**

Received at International Bureau: 25 August 2017 (25.08.2017) [JP]

## **International Report on Patentability (IPRP) Chapter II of the PCT:**

Not available

### **(81) Designated States:**

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

European Patent Office (EPO) : AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM