

Title (en)

A method and apparatus for remotely calibrating a phased array system used for satellite communication

Title (de)

Verfahren und Anordnung zur Ferneichung eines Gruppenantennensystems für die Satellitenkommunikation

Title (fr)

Procédé et dispositif de calibration à distance d'un système d'antennes à commande de phase utilisé pour communication par satellite

Publication

**EP 0752736 B1 20020502 (EN)**

Application

**EP 96304973 A 19960705**

Priority

- US 49952895 A 19950707
- US 49979695 A 19950707

Abstract (en)

[origin: EP0752736A1] A method and apparatus for remotely calibrating a system having a plurality of N elements, such as a phased array system, is provided. The method includes generating coherent signals, such as a calibration signal and a reference signal having a predetermined spectral relationship between one another. The calibration signal which is applied to each respective one of the plurality of N elements can be orthogonally encoded based on the entries of a predetermined invertible encoding matrix, such as a binary Hadamard matrix, to generate first and second sets of orthogonally encoded signals. The first and second sets of orthogonally encoded signals and the reference signal are transmitted to a remote location. The transmitted first and second sets of orthogonally encoded signals are coherently detected at the remote location. The coherently detected first and second sets of orthogonally encoded signals are then decoded using the inverse of the predetermined invertible encoding matrix to generate a set of decoded signals. The set of decoded signals is then processed for generating calibration data for each element of the system. <IMAGE>

IPC 1-7

**H01Q 3/26**

IPC 8 full level

**H01Q 3/26** (2006.01); **H01Q 21/00** (2006.01); **H04B 17/00** (2006.01); **H04Q 9/00** (2006.01)

CPC (source: EP)

**H01Q 3/267** (2013.01)

Cited by

CN112134629A; GB2346013A; DE19951525A1; DE19951525C2; US8604975B2; US7446698B2; WO0169725A1; WO9839818A1; WO2005086285A1; WO0150700A1

Designated contracting state (EPC)

FR GB IT

DOCDB simple family (publication)

**EP 0752736 A1 19970108**; **EP 0752736 B1 20020502**; CA 2180051 A1 19970108; CA 2180051 C 20050426; JP 4223575 B2 20090212; JP H09121195 A 19970506

DOCDB simple family (application)

**EP 96304973 A 19960705**; CA 2180051 A 19960627; JP 17696996 A 19960708