(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 126 626**
A3

(12) # EUROPEAN PATENT APPLICATION

(21) Application number: **84303356.4**

(51) Int. Cl.⁴: **H 01 Q 3/26**

(22) Date of filing: **17.05.84**

(30) Priority: **23.05.83 US 497349**
23.05.83 US 497350

(43) Date of publication of application:
28.11.84 Bulletin 84/48

(88) Date of deferred publication of search report: **04.02.87**

(84) Designated Contracting States:
DE FR GB IT NL SE

(71) Applicant: **HAZELTINE CORPORATION**
500 Commack Road
Commack New York 11725(US)

(72) Inventor: **Frazita, Richard F.**
12 Skunks Hollow Road
St. James New York 11780(US)

(72) Inventor: **Lopez, Alfred R.**
4 Sarina Drive
Commack New York 11725(US)

(74) Representative: **Wood, Anthony Charles et al,**
c/o MICHAEL BURNSIDE & PARTNERS 2 Serjeants' Inn
Fleet Street
London EC4Y 1HL(GB)

(54) **Resonant waveguide aperture manifold.**

(57) A waveguide manifold (200) for monitoring the operation of an array antenna (1). The waveguide is centerfed (203) and has reflecting terminations (201, 202) at either end. The waveguide output is matched to the waveguide as if non-reflecting terminations were at either end of the waveguide. The waveguide input is a plurality of groups of slots (206-214) wherein adjacent slots in each group (A, B, C, D) have alternating polarity and adjacent groups may have alternating phase. A standing wave created in the waveguide has a plurality of cells of alternating phase (Figure 11). Each slot is located within one of the resonating standing wave cells. The resulting manifold beam forming characteristic will be temperature and frequency independent over a practical range.

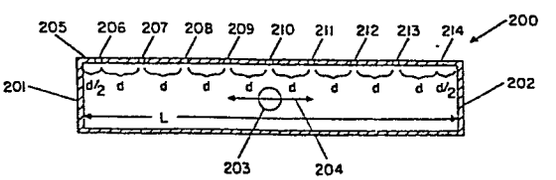

FIG. 3

EP 0 126 626 A3

0126626

European Patent Office

EUROPEAN SEARCH REPORT

Application number
EP 84 30 3356

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
X	US-A-3 293 550 (C.R. HOGE et al.) * Column 4, lines 41-71; column 6, lines 53-68 *	1	H 01 Q 3/26
Y		2-8	
Y	US-A-3 328 800 (J.A. ALGEO) * Column 5, lines 9-67; column 7, line 27 - column 8, line 71; figures 3,5,7,8,10,11 *	2-8	
X	US-A-2 905 940 (E.G. SPENCER) * Column 2, lines 21-54 *	1	
A	TELECOMMUNICATIONS AND RADIO ENGINEERING, vol. 25/26, no. 10, October 1971, pages 50-55; P.A. MEL'YANOVSKIY et al.: "Methods for monitoring the parameters of phased antenna arrays" * Page 53, line 5 - page 55; figure 4 *		TECHNICAL FIELDS SEARCHED (Int. Cl. ³) H 01 Q G 01 S G 01 R
A	AU-B- 508 205 (COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATION) * Whole document *		

-/-

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	30-10-1984	ANGRABEIT F.K.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO Form 1503 03 82

European Patent Office

EUROPEAN SEARCH REPORT

Application number

EP 84 30 3356

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
P,D	EP-A-0 106 438 (HAZELTINE) * Page 4, lines 9-27 * -----		

TECHNICAL FIELDS SEARCHED (Int. Cl. ³)

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	30-10-1984	ANGRABEIT F.K.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO Form 1503 03.82