PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : G06F 13/40 — A1

(11) International Publication Number: **WO 00/70474**

(43) International Publication Date: 23 November 2000 (23.11.00)

(21) International Application Number: PCT/US00/13223

(22) International Filing Date: 12 May 2000 (12.05.00)

(30) Priority Data:
09/315,325 19 May 1999 (19.05.99) US

(71) Applicant: SUN MICROSYSTEMS, INC. [US/US]; 901 San Antonio Road, Palo Alto, CA 94303 (US).

(72) Inventor: STARR, Jonathan; 20350 Stevens Creek Blvd., Apt 106, Cupertino, CA 95014 (US).

(74) Agents: D'ALLESSANDRO, Kenneth et al.; Sierra Patent Group, Ltd., P.O. Box 6149, Stateline, NV 89449 (US).

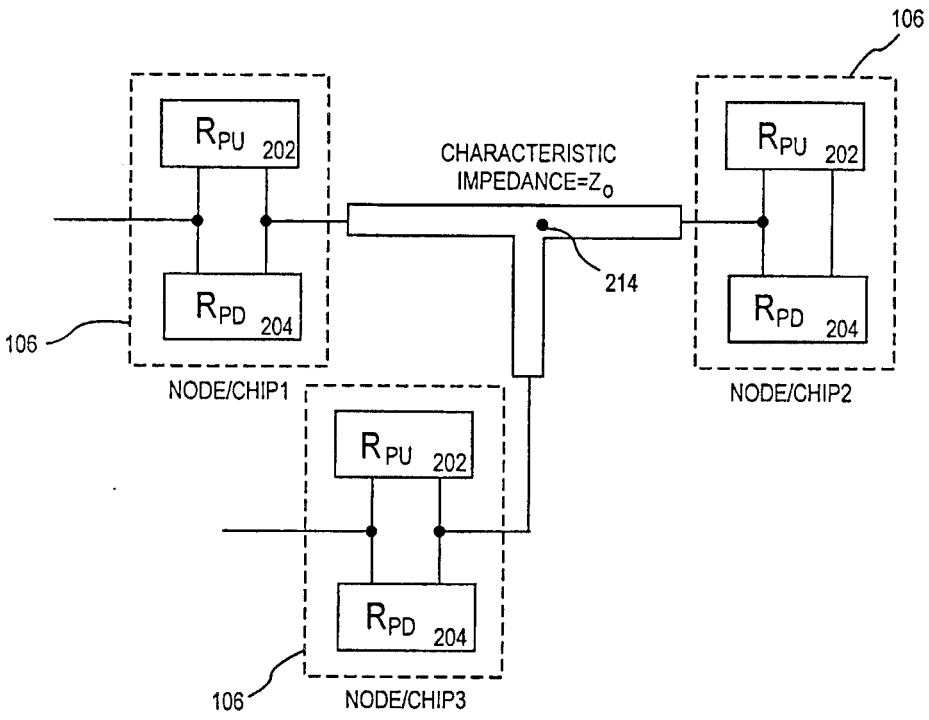
(81) Designated States: IL, JP, KR, RU, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: APPARATUS FOR REDUCING REFLECTIONS WHEN USING DYNAMIC TERMINATION LOGIC SIGNALING

(57) Abstract

An information handling system includes a plurality of transmission lines coupled together at one end through resistance elements having a particular resistance, a driver circuit coupled to one of the transmission lines, a plurality of receiver circuits individually coupled to distinct ones of the transmission lines for resolving the signals, and on–chip termination resistors having a resistance corresponding to the characteristic impedance and that can be coupled or decoupled from the output node by on–chip circuitry. In this embodiment, the termination resistors are separate and distinct from driver circuitry. However, when the node is in a receive configuration, its corresponding termination resistor is tied to the transmission line at that node, and its corresponding driver circuit presents a high impedance output to that node. A second embodiment provides driver circuits having particular on–chip pull–up and pull–down resistances, one of the either pull–up or pull–down resistances being used to terminate the bus for those nodes which are in a receive configuration. In this second embodiment, separate terminating resistances are not required, due to the driver operating as the terminator.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece			TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	NZ	New Zealand		
CM	Cameroon			PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		