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18 May, 1998

Dr. Theo Irmer
Director of the Telecommunications Standardization Bureau
Place des Nations
CH-1211 Geneve 20
Switzerland

Dear Dr. Irmer:

Stanford University and Texas Instruments Incorporated ("TI") are aware of and support the ITU policy regarding licensing of intellectual property rights that are necessary to practice ITU standards. Stanford owns and TI, via its wholly owned subsidiary Amati Communications Corporation, is exclusive licensee to four patents which may be relevant to standards now under consideration for Asymmetric Digital Subscriber Line (ADSL) communications. These patents ("Patents") are:

- U.S. Patent No. 5,220,570, entitled "Programmable Viterbi Signal Processor" (Stanford Docket No. S90-099);
- U.S. Patent No. 5,317,596, entitled "Method and Apparatus for Echo Cancellation with Discrete Multitone Modulation" (Stanford Docket No. S91-040);
- U.S. Patent No. 5,479,447, entitled "Method and Apparatus for Adaptive Variable Bandwidth Optimization in High-Speed Data Transmission of a Multicarrier Signal over Digital Subscriber Lines" (Stanford Docket No. S92-018); and
- U.S. Patent No. 5,285,474, entitled "Method for Equalizing a Multicarrier Signal in a Multicarrier Communication System" (Stanford Docket No. S92-019).

It is TI's intention, upon request, to grant non-exclusive licenses to any such requester on reasonable terms and conditions, including its then current royalty rates, of existing and pending patents that TI owns or

Page 2
Dr. Theo Irmer
18 May, 1998

controls (including the Patents cited above), to the extent that such patents necessarily would be directly infringed by the manufacture, sale and implementation of products solely because they are fully compliant with the ITU SG15/Q4 xDSL standards (G.dmt, G.lite, G.ploam, G.hs) under development, and provided a similar grant under the requester's patents, at least within the scope of the license granted to the requester, is made available to TI.

In the event that TI's exclusive licensing rights to the Patents cease to exist and those licensing rights then revert to Stanford, then it is Stanford's intention to comply with Appendix I.2.2.

In addition to the Patents cited above, Stanford owns patents independently, which are not subject to an exclusive licensing arrangement, and which may be necessarily directly infringed by the manufacture, sale and implementation of products solely because they are fully compliant with the ITU SG15/Q4 xDSL standards (G.dmt, G.lite, G.ploam, G.hs) under development. Stanford has or will submit a separate letter regarding these independent patents.

Sincerely,



Katherine Ku
Director,
Office of Technology Licensing
Stanford University



Richard L. Donaldson
Senior Vice President
General Patent Counsel
Texas Instruments Incorporated

cc: Mr. Fabio Bigi
Mr. Richard L. Stuart
Prof. John Cioffi
Dr. James Carlo