This TECHNOLOGY LICENSING AGREEMENT (this "Agreement") is entered into on July 24, 1998, but intended to be effective as of January 1, 1998, by and between WorldSpace Management Corporation, a corporation organized under the laws of the State of Delaware ("WorldSpace"), American Mobile Radio Corporation, a corporation organized under the laws of the State of Delaware ("AMRC"), AMRC Holdings, a corporation organized under the laws of the State of Delaware ("AMRC Holdings") and American Mobile Satellite Corporation, a corporation organized under the laws of the State of Delaware ("AMSC") (each a "Party" and together the "Parties").

WHEREAS, AMRC is taking steps to commence the establishment of a Digital Audio Radio Service ("DARS") satellite system in the United States (the "AMRC System") under the license granted to AMRC in October 1997 by the U.S. Federal Communications Commission, as such license may from time to time be modified or amended;

WHEREAS, WorldSpace recognizes that in connection with the establishment of the AMRC System it will be necessary and/or desirable for AMRC to have the use of certain technology comprised of patents, patent applications, software, databases, know-how and the intellectual property rights therein owned by, licensed to or developed from time to time by WorldSpace or any corporation, partnership or other entity controlled by, controlling or under common ownership or control with WorldSpace (a "WorldSpace Affiliate" and together with WorldSpace, the "WorldSpace Group") and to be used in any digital radio broadcasting system being implemented outside the United States by the WorldSpace Group or in which the WorldSpace Group participates (such system, the "WorldSpace System"); and

WHEREAS, AMSC recognizes that in connection with the establishment of the AMRC System it will be necessary and/or desirable for AMRC to have the use of certain technology comprised of patents, patent applications, software, databases, know-how and the intellectual property rights therein owned by, licensed to or developed from time to time by AMSC and used by AMSC in its mobile satellite business in the United States (the "AMSC System");

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, the parties hereto agree as follows:

- 1. <u>Licensed Technology</u>. (a) The technologies set forth below in this Section 1(a) are collectively referred to herein as "<u>WorldSpace Licensed Technology</u>."
 - (i) MPEG 1, 2 and 2.5 Layer 3 technology, which comprises a source encoding and decoding technology used to code and decode broadcast signals, for which WorldSpace holds (A) nonexclusive sublicenses from Thomson Consumer Electronics Sales GmbH ("Thomson") for the WorldSpace System and (B) exclusive licenses from Fraunhofer Gesellschaft zur Förderung der Angewandten Forschung.



Fraunhofer Ex 2033-1

broadcast data for transmission on an uplink carrier to a satellite, the digital format, TDM uplinks and downlinks, and chipset and receiver technology for demodulating the downlink signals;

- (iii) Multicarrier modulation technology ("MCM Technology"), a technology intended to enable terrestrial rebroadcasting of digital satellite broadcasts, the initial manifestations of which are scheduled to be supplied to AMRC at or around September 1, 1998, and which technology will be composed of:
 - (A) terrestrial transmission waveform design;
 - (B) optimized WorldSpace satellite transmission waveform design;
 - (C) proprietary digital signal processing techniques for DARS radios;
 - (D) proprietary diversity combining techniques for DARS radios;
 - (E) proprietary prototype radio design including RF front-end, baseband processor and decoder;
 - (F) proprietary prototype antenna design optimized for DARS applications;
 - (G) proprietary terrestrial repeater design and production bid package;
 - (H) DARS radio interface and digital format specification;
 - (I) DARS radio chipset specification, and
 - (J) DARS radio antenna specification for automobile application;
- (iv) all other technologies now or from time to time used in the WorldSpace System and which have practical application to the AMRC System and which WorldSpace owns, acquires or licenses and is permitted to sublicense to AMRC, subject to the provisions of Section 7 hereof, and
- (v) all improvements made from time to time by the WorldSpace Group to any of the items set forth in Subsections (i) through (iv) above; subject, in the case of improvements to items described by Subsection (iv) above, to the limitations set forth in that Subsection (iv).
- (b) The technologies set forth below in this Section 1(b) are collectively referred to herein as "AMSC Licensed Technology:"



specifications for mobile terminals for AMSC's MSAT system;

- (ii) communications ground segment ("CGS") technology, consisting of the computer software used by AMSC to provide the primary control functionality of its CGS, which software was originally provided to AMSC by Westinghouse Electric Corporation ("WEC") as "Foreground Technology" under that certain contract between AMSC and WEC dated as of May 1, 1992, together with any modifications or enhancements thereto made by or for AMSC and any other software and other technology relating to the CGS in which the proprietary rights are owned by AMSC, but excluding therefrom any third party commercial products incorporated into the CGS, the Digital Voice Systems, Inc. codec and improvements to CGS technology made by or for African Continental Telecommunications Ltd. or any other third party hardware, software or other technology;
- (iii) technology owned by AMSC or licensable by AMSC relating to the Seavey low-profile omnidirectional L-band antenna developed by AMSC as part of its low-rate codec project;
- (iv) all other technologies now or from time to time used in the AMSC System and which have practical application to the AMRC System and which AMSC owns, acquires or licenses and is permitted to sublicense to AMRC, subject to the provisions of Section 7 hereof, and
- (v) all improvements made from time to time by AMSC to any of the items set forth in Subsections (i) through (iv) above.
- (c) The WorldSpace Licensed Technology and the AMSC Licensed Technology are collectively referred to herein as the "<u>Licensed Technology</u>".
- 2. Grant of License. (a) WorldSpace hereby grants to AMRC a license to use the WorldSpace Licensed Technology for the development, implementation and commercialization of the AMRC System for transmission in and over the geographic area of the United States and its territories.
- (b) AMSC hereby grants to AMRC a license to use the AMSC Licensed Technology for the development, implementation and commercialization of the AMRC System for transmission in and over the geographic area of the United States and its territories.
- (c) The licenses granted under Subsections (a) and (b) of this Section shall include the right for AMRC to incorporate the WorldSpace Licensed Technology or the AMSC Licensed Technology, as the case may be, in AMRC's own technology and exploit all such rights granted to AMRC herein with respect to the Licensed Technology without obligation to make any payment of any kind to WorldSpace, AMSC or any third party except to the extent expressly set forth in Section 4 of this Agreement.



Section 3) to use the Licensed Technology for the development, implementation and commercialization of a DARS satellite system. Subject to the terms and conditions set forth herein, each of WorldSpace and AMSC shall retain all rights not expressly granted hereunder, including the right to use the WorldSpace Licensed Technology and the AMSC Licensed Technology, respectively, for any purpose whatsoever.

- (b) AMRC shall have the right to sublicense the WorldSpace Licensed Technology to any third party, in connection with the development, implementation and commercialization of the AMRC System, including, for example, chipset manufacturers, terrestrial repeater manufacturers and receiver manufacturers, provided, however, that (i) AMRC shall pay to WorldSpace fifty percent (50%) of the fees received from AMRC's sublicensee with respect to any WorldSpace Licensed Technology so sublicensed that are in excess of the minimum payments, if any, to be made to WorldSpace for such sublicensed technology under Section 4 hereof; and (ii) AMRC shall not permit any such sublicensee to further sublicense the WorldSpace Licensed Technology without the prior written consent of WorldSpace, which consent shall not be unreasonably withheld.
- Technology to any third party for use in a DARS satellite system other than the AMRC System for transmission in and over the geographic area of the United States or its territories; provided, however, that any such license negotiated by WorldSpace shall be subject to the consent of AMRC, which consent shall not be unreasonably withheld; and provided further, that (i) if such third party is CD Radio, Inc. or any affiliate thereof, all payments made by such third party with respect to such license shall be for the benefit of WorldSpace and (ii) if such third party is neither CD Radio Inc. nor an affiliate thereof, WorldSpace and AMRC shall determine the proper allocation of the receipt of such payments at the time of the execution of such license.
- (d) AMRC shall have the right to sublicense the AMSC Licensed Technology to any third party, in connection with the development, implementation and commercialization of the AMRC System, including, for example, chipset manufacturers, terrestrial repeater manufacturers and receiver manufacturers, without obligation to pay any sublicensing fees to AMSC; provided, however, that (i) AMRC shall pay to AMSC fifty percent (50%) of the fees received from AMRC's sublicensee with respect to any AMSC Licensed Technology so sublicensed that are in excess of the minimum payments, if any, to be made to AMSC for such sublicensed technology and (ii) AMRC shall not permit any sublicensee to further sublicense the AMSC Licensed Technology without the prior written consent of AMSC, which consent shall not be unreasonably withheld.
- (e) AMSC reserves the right to license the AMSC Licensed Technology to any third party for use in a DARS Satellite System other than the AMSC System or the AMRC System for transmission in and over the geographic area of the United States or its territories, provided, however, that any such license for use outside the AMSC System or the AMRC System in the United States or its territories negotiated by AMSC shall be subject to the consent of AMRC, which consent shall not be unreasonably withheld.



with a DARS satellite system, AMRC shall make royalty payments to WorldSpace or AMSC, as the case may be, as follows.

(a) MPEG 1, 2 and 2.5 Layer 3 Technology. In connection with the use of the MPEG 1, 2 and 2.5 Layer 3 Technology, AMRC shall make the following payments to WorldSpace, on and after the date, if any, that AMRC declares its intention to use the MPEG 1, 2, and 2.5 Layer 3 Technology: (i) a one-time payment of \$50,000; (ii) an ongoing quarterly payment equal to one and two-tenths percent (1.2%) of AMRC's quarterly net revenues determined in accordance with GAAP, payable 45 days after the end of each fiscal quarter with respect to the previous fiscal quarter; and (iii) \$0.30 per chipset manufactured employing the MPEG 1, 2, and 2.5 Layer 3 Technology, payable 45 days after the end of each fiscal quarter with respect to such chipsets manufactured in the previous fiscal quarter.

In the event that WorldSpace shall be required to pay to Thomson any additional fees relating to AMRC's use of the WorldSpace Licensed Technology, then WorldSpace shall promptly give notice of such fees to AMRC and AMRC shall be liable for and pay such fees.

Any such royalties payable to WorldSpace that are not paid when due as aforesaid shall accrue interest from the date on which payment becomes due at nine percent (9%) per annum, compounded quarterly, with any payments received being applied first to the oldest quarterly installments and accumulated interest thereon.

In the event that the WorldSpace Group should negotiate a reduction in the royalty payments payable to the owners of certain components of the MPEG 1, 2 and 2.5 Layer 3 Technology, then the royalty payments specified in this Subsection 4(a) shall be reduced dollar for dollar (or on an appropriate percentage basis) to reflect any such reduction.

(b) TDM Technology. In connection with the use of the TDM satellite system technology, AMRC shall make the following payments to WorldSpace: \$50,000 per year, payable on January 1 of each year, with the payment for 1998 payable upon signing of this Agreement.

Any such royaltics payable to WorldSpace that are not paid when due as aforesaid shall accrue interest from the date on which payment becomes due at nine percent (9%) per annum, compounded quarterly, with any payments received being applied first to the oldest annual installments and accrued interest thereon.

- (c) MCM Technology. In connection with the development of the MCM Technology, AMRC shall make the following payments to WorldSpace, regardless of the success or failure of the development of the MCM Technology, as follows:
 - (i) \$800,000, payable upon delivery of such portion of the MCM Technology as shall be embodied in the Digital Waveform Specification to be supplied to AMRC at or around September 30, 1998



DOCKET

Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

