APPENDIX 3

STANDARDS

3.1 STANDARDS ORGANIZATIONS

CCITT: International Consultative Committee for Telephone and Telegraph, now renamed International Telecommunications Union-Telecommunications Standardization Sector or ITU-TSS

GSM: Group Speciale Mobile

CTIA: Cellular Technology Industry Association

NSA: National Security Agency

EBU: European Broadcasters Union

ISO/MPEG: International Organization of Standardization, Motion Picture Expert Group, deals with audiovisual standards

CTIA: Cellular Technology Industry Association

CIF: Common Intermediate Format, digital television and images

CCIR: International Consultative Committee for Radio, digital television, and images

HDTV: High Definition Television Format

DAB: Digital Audio Broadcasting

3.2 STANDARDS

G.711 CCITT (1972) PCM at 64 kbits/s (8 bits/sample at 8 ksamples/s)

G.721 CCITT (1984) ADPCM 32 kbits/s uses pole-zero adaptive predictor

G.723 CCITT (1988) modification of G.721 to accommodate 24 and 40 kbits/s

G.722 CCITT (1988) 7 kHz audio at 64 kbits/s of integrated services digital network (ISDN) teleconferencing, based on 2 band sub-band/ADPCM coder

AT&T voice store-and-forward standard (1986), sub-band coding, 16 and 24 kbits/s, 5 band non-uniform tree-structured QMF bank in conjunction with APCM

AUSSAT Australian Satellite standard (1991), 6.4 kbits/s improved multiband excitation coder

INMARSAT-M International Maritime satellite standard (1991), uses same standard as AUSSAT, both of these can handle multirates (8, 4.8, 2.4 kbits/s)

LPC-10 DoD secure communications standard (1975), 2.4 kbits/s, tenth-order predictor

FS-1015 This is the LPC-10 standard

Skyphone British Telecom International (BTI) (1985), 9.6 kbits/s multipulse linear prediction (MPLP)

RPE-LTP GSM (1988) Pan-European digital mobile standard, 13 kbits/s coding using regular pulse excitation with long term prediction

FS-1016 Federal Standard CELP (1989), 4.8 kbits/s CELP, adopted by DoD for possible use in the third generation secure telephone unit (STU-III)

IS-54 North American Digital Cellular System standard (1989) VSELP vector sum excited linear prediction, 8 kbits/s

G.728 CCITT (1991) LD-CELP, 16 kbits/s, G. series of standards, low-delay CELP

JDC Japanese Digital Cellular standard, 6.7 kbits/s, based on VSELP

ISO standard for audiovisual (1991, 1993), calls for CD audio bandwidth of 20 kHz and a single channel bit rate of 96 or 128 kbits/s

AT&T perceptual audio coder (PAC) (1992), earlier version ASPEC, 128 k bits/s for CD quality

MUSICAM Philips coder (1992), 128 kbits/s CD quality

ATRAC Sony's Adaptive Transform Acoustic Coder (1992), MiniDisc

AC-2 Dolby's 128 kbits/s transform-based audio coder (1990)

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