

Tentative Minutes of the FH Ad Hoc Group Meeting held 7-10 March, 1994 in Vancouver, B. C.

**Frequency Hop Ad Hoc Group,
Wednesday Morning, 9 March 1994.**
Chairman Chadwick presiding.

Dean Kawaguchi presents 94/69 on a stuffing method. Dave Bagby did a similar paper in San Jose. Says there is a slight increase in the CRC failure rate.

Ed Geiger: This method takes care of offset well but doesn't guarantee a lot of transitions for the synchronizer.

Learned but inconclusive discussion on forbidden patterns and the properties of nested CRCs.

Chris Zegelin: likes the simplicity of Dean's scheme.

Peter: IPR?

Dean: knows of no applicable IPR.

Ed presents 94/72.

Discussion on procedures to decide run length and bias maxima. Dean calls for Apple to exercise their system at 1 Mb/sec and examine its emission spectrum.

Ed calls for a packet length to recommend to the MAC/PHY interface committee. Speaks for block coding.

----- break -----

Peter: Shall we approve the minutes of all our previous meetings?

Dean: I don't recognize my own utterances in the minutes. Nevertheless I move to approve them. Jim McDonald seconds. The minutes are approved by acclaim.

Ed displays a table of packet error rate as a function of bit error rate and packet length. We discuss FEC vs. ARQ again. Ed tentatively advocates 500 octets as an expectation of the MAC. There occurs a general discussion on voting procedures for determining packet length recommendations.

Ron Mahany: we should not pretend the channel is AWGN.

Learned discussion on fan blades.

Jim McDonald: we will need explanatory text along with our length recommendation.

Jerry Socci: invokes variable fragmentation depending on channel conditions.

Jim presents 94/37 on packet length for good performance in the presence of microwave ovens. Tim differs on the data. Discussion suggests both sets of data are good but the integration times are different.

Alex Herman: 3 ovens on 3 phases will shut down everything.

More discussion on fitting packets into gaps and conditional fragmentation. It is asserted that our complex MAC groans under the additional burden of fragmentation.

Larry: perhaps we should phrase our recommendation this way; X octets give 99% availability on one try and Y octets give 99% availability with one retry (two tries).

----- lunch break -----

Ed Geiger presents 94/68.

Discussion of state diagrams and timing diagrams.

Dean: one can find inconsistencies in 94/68.

Ed: we ran out of time.

Discussion of antennas and "antenna state parameters."

MOTION 1: Editing of the FH draft spec will proceed by simple majority and will be confirmed in the FH ad hoc group by 75% majority of the voting members. Moved: E. Geiger. Seconded: C. Zegelin.

VOTE ON MOTION 1: Motion passes unanimously by acclaim.

Ed proceeds to guide us through portions of 94/68. Problems are noted in section 4.7.4. Ed won't provide editable copies of 94/68, only PostScript. John asks why and is told this is traditional.

Peter hands the chair temporarily to Jim McDonald.

MOTION 2: The FH group accepts 94/68 as the FH working draft standard. Moved: P. Chadwick. Seconded: D. Kawaguchi.

Peter resumes as chair.

Larry Zuckerman moves to call the question, Tim seconds. The motion to call the question passes by acclaim.

VOTE ON MOTION 2: for=12, against=1, abstentions=0. The motion passes.

----- break -----

Ed: I have been tasked by the chair to prepare, for discussion, proposals on run length, DC offset and offset period. Here are three possibilities for maximum allowed run length: (a) 16, (b) 8, (c) 41. Here too are three possibilities for maximum imbalance:

(a) in any 17 adjacent bits, no more than 94% the same;

(b) in any 50 adjacent bits, no more than 75% the same;

(c) in any 100 adjacent bits, no more than 60% the same.

Jim: questions the need to specify these things, feels they are implementation specific.

Ed: do you feel a need to limit run length?

Jim: no.

X: Agrees with Jim. use the MAC and retransmit.

Ed: scramblers don't prevent runs.

X: change the scrambler's initial condition on the second try.

Ed: how do you identify which key you're using?

X: a header bit.

Ed: I can construct a string which defeats both keys.

Dean: Jim, don't we have to constrain bias and run lengths?

Jim: there exist killer patterns even with bit stuffing.

Dean: no.

Jim: remember channels have memory and eyes get closed.

Chris: multiple scrambler keys are impossible.

We conduct a straw poll on the possibilities for imbalance limits: a=1, b=0, c=2 and not ready=10.

Peter: so, in summation: we have no agreement on packet length, no agreement on scrambling vs. stuffing and no decision on CCA.

Tim: we didn't vote on CCA.

----- adjourn -----