

**Proposal and Work Plan for CPTWG “Broadcast Protection Discussion Group”
to Tackle the Technical Aspects of Preventing
Unrestricted and Unauthorized Redistribution of Digital Broadcast Content**

1. Problem Statement: A solution is needed to prevent unauthorized redistribution of unencrypted digital over-the-air broadcast content on a worldwide basis (including unauthorized redistribution over the Internet). Such a solution, consisting of effective technologies and legal enforcement mechanisms, would (a) enable content owners to signal the application of content protection mechanisms for such content, (b) require that receiver products detect such signaling means and, when the signaling means is detected, treat the content securely so as to prevent unauthorized redistribution, and (c) not interfere with reasonable and customary consumer expectations with respect to the home recording and enjoyment of broadcast content.

2. Proposal: Determine Technical Aspects of Solution in the CPTWG Forum

In order to solve the problem described above, an evaluation, in a multi-industry context, of effective technologies and implementation requirements is necessary. We therefore request that CPTWG accept under its aegis the Broadcast Protection Discussion Group, or “BPDG.”

3. Charter

The group charter shall be to evaluate proposed solutions for (a) the secure signaling of protection for unencrypted digital terrestrial broadcast content against unauthorized redistribution outside of the personal digital network environment (*e.g.*, the home or the automobile), and (b) the secure handling of such content by products when such signaling has been applied.

The evaluation shall include the following considerations:

a. Which consumer electronics and information technology products must implement detection and protection technology in order to effectively prevent unauthorized redistribution of digital broadcast content?

b. Which signaling technologies can be implemented effectively and with reasonable cost and burden to content owners, broadcasters and manufacturers?¹

¹ Conceivably, multiple technologies could be used to protect digital broadcast content. However, it would be advantageous to use a single “Broadcast Flag,” so that content owners and broadcasters would not bear the burden and expense of applying multiple means; manufacturers would not bear the burden and expense of detecting and responding to multiple signals; and no party would bear the risk that, by failing to apply or detect all technologies, the protection systems could be avoided or defeated. It therefore is proposed that the group will initially concentrate its efforts upon the proposal presented at the November 28, 2001, CPTWG meeting.

c. Where could or should the signaling means be detected within these products; and which location would provide the best combination of effective protection and reasonable cost and burden?

d. What technologies or implementation requirements can ensure that, once the signaling means is detected, the content will be protected within the products until the content is passed to an authorized output or to another technology that will securely handle the content?

Because the solution will have to be implemented in products manufactured by companies in multiple industries, it would be most effective to develop the solution in a forum with dedicated participation from members of the affected industries, including: motion picture and television producers; broadcasters; consumer electronics manufacturers; and, information technology manufacturers.

Important related work already has been undertaken or is in process under the aegis of, or concurrent with the meetings of, the Copy Protection Technical Working Group. Specifically, transmission protection technologies resulted from the efforts of the CPTWG Digital Transmission Discussion Group working group. The DVD Copy Control Association, which is actively pursuing the selection of a watermark technology for CSS-encrypted content that also could possibly be used to signal protection for broadcast content, schedules its meetings around the same time as CPTWG meetings. Members of all affected industries already attend CPTWG meetings. Therefore, we request that CPTWG initiate a technical working group effort to solve the technical aspects of the problem. To the extent that additional industry participation is desirable, we suggest that the tri-chairs of the CPTWG could issue a request to relevant trade associations (e.g., NAB, NCTA and CableLabs) to join the multi-industry effort.²

A second task that could be undertaken by this group, concurrently or consecutively, is to identify any technical issues that are raised by the protection of digital terrestrial broadcast signals, when output in high definition analog form, against unauthorized redistribution in digital form outside the personal network environment.

² A parallel discussion also should take place among representatives from the affected companies and industries to consider the policy and legal aspects of the solution, including with respect to what legally enforceable means might be available to mandate the use of the technologies or adherence to implementation requirements recommended by the technical working group. At the inception of the CPTWG, such a separate policy group had been formed to consider these types of questions. This effort should be organized promptly, so that work can begin once consensus begins to coalesce around a technical proposal.

4. Work Plan:

a. Examination of “Strawman” Proposals of Available Architectures and Technologies for Signaling and Protection of Digital Broadcast Content

In light of existing technologies, and others that might be developed in the future, we would suggest that the work proceed based on the concepts of signal protection and signaling previously discussed at CPTWG and, in particular, the presentation made November 28, 2001, which is attached hereto for ease of reference. The group would ascertain whether the proposal provides an adequate technical platform for elaboration and refinement by the group, that can mature into a secure and effective means of protection. The proposal likely can and will be implemented by individual companies using different technologies, some “off-the-shelf” solutions and others that may be proprietary to the companies themselves.

We do not propose, and do not recommend, that the contemplated CPTWG technical working group issue a Call for Proposals or Request for Information.

b. Proposed Work Product for Technical Working Group

The technical working group would prepare a report, to be reviewed by content owners, broadcasters and manufacturers, consisting of:

- A brief overview describing the technologies to be used to signal application of protection with reasonable cost and burden to content owners, broadcasters and manufacturers;
- A description of how such signaling means can be asserted over broadcast content;
- An assessment of what products would need to detect such signaling means and implement protection;
- An architectural evaluation of where detection of signaling mechanisms could or should be located in particular products, and which locations would provide the best combination of effective protection and reasonable cost/burden to implementers; and,
- A description of how the technologies or implementation requirements can ensure the integrity of the signaling means, including the unauthorized addition or alteration of signaling means and the protection of such signaling means within the products, until the content is passed to an authorized output or to another technology that will securely handle the content.

5. Timing: We suggest that the proposed technical working group begin work promptly, with the goal of substantially completing its work by the end of 1Q 2002. This

would be possible only if this effort focuses solely on the secure implementation of the current proposed use of a broadcast flag, and not on the use of a watermark. In order to meet the proposed schedule, we recommend that the technical working group meet no less than twice per month, once per month in person and once by teleconference.

6. Proposed Tasks and Timetable:

- a. December 18/19, 2001
 - i. Telephonic conference to discuss and refine the procedural aspects of this proposal and work plan, as appropriate
 - ii. Circulate this document to potential participants in order to offer parties that potentially may implement this proposal the opportunity to participate in the group
 - iii. Select co-chairs for the technical working group from multiple affected industries
 - iv. Discussion and questions regarding technical proposal
 - v. Preliminary determination whether to proceed based on the specific proposal made in the November 28 presentation or whether other options need to be included in the current discussions
 - v. Create a small task force to begin drafting strawman Compliance Rules and Robustness Rules with respect to the November 28 presentation, based primarily on exemplars from CSS, 5C and 4C licenses
- b. January, 2002
 - i. Hold in-person meeting January 15, 2002, following CPTWG meeting
 - ii. Hold at least one telephonic conference about two weeks later
 - iii. By the end of January 2002:
 - Obtain approval of group as official CPTWG working group, and give progress report on efforts
 - If proposal needs no substantial revision, refine technical proposal into "0.5 version" in response to comments from participants
 - If substantial revisions are deemed advisable, obtain submissions of revisions to proposal

- Identify and assign any unfinished work items for broadcast flag proposal
 - Circulate a first draft of proposed Compliance Rules and Robustness Rules, to be based primarily on exemplars from CSS, 5C and 4C licenses
 - Create the parallel discussion group to address enforcement issues
 - Begin defining future work items (*e.g.*, to discuss technologies to “plug the analog hole”)
- c. February 2002
- i. Hold at least one telephonic conference by the second week of February
 - ii. Meet in person following the February 28 CPTWG meeting
 - iii. By the end of February 2002:
 - Prepare first draft of report
 - Complete identified unfinished work items
 - Refine technical proposal into “0.8” version
 - Prepare additional drafts of Compliance Rules and Robustness Rules
 - Meet with the Enforcement Issues group to discuss the technological solution and available enforcement methods
 - Make presentation to CPTWG to describe progress of working group
- d. March 2002
- i. Hold at least one telephonic conference by the second week of March
 - ii. Meet in person following any March CPTWG meeting; if there is no March CPTWG, potentially hold a separate in-person BPDG meeting
 - iii. By the end of March 2002:
 - Finalize report
 - Finalize “0.9” version of technical proposal
 - Complete draft Compliance Rules and Robustness Rules
 - Develop work plan to continue discussing future issues
 - Develop presentation to make to next CPTWG meeting

[END]