

**COMMITTEE T1  
CONTRIBUTION**

Document Number: T1A1.5/94- 134

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**STANDARDS PROJECT:** Analog Interface Performance Specifications for Digital  
Video Teleconferencing/Video Telephony Service

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**TITLE:** Proposed Draft Standard Video Test Scenes

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**ISSUE ADDRESSED:** Standard video test tape for performing subjective and  
objective testing of VTC/VT systems.

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**SOURCE:** VTC/VT Editor - Stephen Wolf (NTIA/ITS)  
Arthur Webster (NTIA/ITS)

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**KEYWORDS:** Video Test Scenes, Subjective and Objective  
Performance Testing

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**DISCLAIMER:**

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## **Introduction**

The availability of standard test material for testing the performance of video codecs is a recognized industry need. In 1992, the CCIR published Recommendation 802. This Recommendation primarily addressed the need for studio quality test pictures and sequences for subjective assessments of digital codecs conveying signals produced according to Recommendation 601. Committee T1Q1.5/T1A1.5 has produced a set of test scenes appropriate for testing Video Teleconferencing/Video Telephony (VTC/VT) systems. A few of the VTC/VT test scenes that were selected by T1 members were obtained from CCIR Recommendation 802 source material (whose test segments are in the public domain). The other test scenes were submitted directly by members of T1. These VTC/VT test scenes have subsequently been used to conduct both subjective tests (T1A1.5/94-118) and objective tests (e.g., T1A1.5/93-152, T1A1.5/93-153, T1A1.5/94-121).

The program of work for the VTC/VT project proposal (T1Q1.5/88-061 Rev 2) includes the development of a standard video test tape to be used in the correlation of subjective and objective test results. Since T1A1.5 has completed development of such a test tape, this information should now be published in the form of a standard video test tape. This contribution provides an initial draft of the text for the proposed standard that will accompany the digital video tape which contains the test scenes.

# American National Standard for Telecommunications -

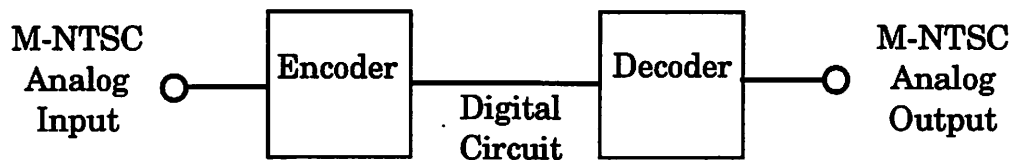
## Digital Transport of Video Teleconferencing / Video Telephony Signals -

### Video Test Scenes for Subjective and Objective Performance Assessment

#### **1 Scope, Purpose, and Application.**

##### **1.1 Scope.**

This standard defines a set of video test scenes used for subjective and objective performance assessment of Video Teleconferencing/Video Telephony (VTC/VT) transmission service channels employing digital transport. The test scenes identified within this standard are applied at the defined interfaces shown in Figure 1. Those interfaces are between VTC/VT transmission service providers and end-users.



**Figure 1** Digital Transmission Service Channel with Interfaces

##### **1.2 Purpose.**

The purpose of this standard is to allow the uniform application of standard video test scenes when evaluating the performance of VTC/VT transmission service channels employing digital transport. It is intended to provide a common understanding by manufacturers, carriers, and their customers.

##### **1.3 Application.**

The primary application of this standard is to provide a set of test scenes for subjective and objective assessments of VTC/VT transmission services employing digital transport.

**2 References and Related Standards.**

**2.1 American National Standards.**

This standard is intended to be used in conjunction with the following American National Standards.

**2.2 Other Related National Standards.**

**2.3 Other Related Standards.**

**2.4 Other Related Publications.**

**3 Test Tape.**

**3.1 Description of Test Scenes.**

Table 1 provides a description of the video scenes on the test tape. Video scenes have been grouped according to one of five scene content categories (A, B, C, D, and E). A single image from each of the test scenes is provided in Table 2.

**Table 1. Description of Test Scenes**

Scene Content Category	Scene Abbreviation	Video Description	Audio Description
<b>A</b>  (One person, mainly head and shoulders)	vtc1nw	Woman sitting reading news story	Voice  Background - moderate level, broadband noise
	susie	Susie on telephone	-
	disguy	Male announcer	Voice  Background - low level hum
	disgal	Female announcer (Miss America)	-

**Table 1. Description of Test Scenes**

<p><b>B</b>  (One person with graphics and/or more detail)</p>	<b>vtc2mp</b>	<b>Woman standing next to map</b>	<p>Voice - slightly muffled</p> <p>Background - low level, low frequency noise</p>
	<b>vtc2zm</b>	<b>Woman standing next to map with pointer, map zoom and pan</b>	<p>Voice - slightly muffled</p> <p>Background - low level, low frequency noise</p>
	<b>boblec</b>	<b>Bob's lecture at chalkboard</b>	<p>Voice</p> <p>Background - moderate level, broadband noise; excessive chalk noise</p>
	<b>smity1</b>	<b>Salesman at desk with box</b>	<p>Voice</p> <p>Background - very low level hum</p>
	<b>smity2</b>	<b>Salesman at desk with magazine</b>	<p>Voice</p> <p>Background - very low level hum</p>
	<b>vowels</b>	<b>Woman at whiteboard teaching vowels</b>	<p>Voice</p> <p>Background - moderate level, narrowband noise; responses of students are audible</p>
<p><b>C</b>  (More than one person)</p>	<b>3inrow</b>	<b>Men at table, camera pan</b>	<p>Voice</p> <p>Background - low level, low frequency noise</p>
	<b>5row1</b>	<b>Five people in a row sitting at a table</b>	<p>Voice</p> <p>Background - low level, narrowband noise; table mike has picked up some handling noise</p>
	<b>intros</b>	<b>Introductions of people sitting at table, camera pans</b>	-
	<b>3twos</b>	<b>Three pairs of people, scene cuts</b>	-
	<b>2wbord</b>	<b>Two people at white board, scene cuts</b>	-
	<b>split6</b>	<b>Split screen, 6 people</b>	-

**Table 1. Description of Test Scenes**

D (Graphics with pointing)	washdc	Washington DC map with hand and pencil motion	-
	cirkit	Circuit diagram, camera zoom	-
	rodmap	Road map with hand and pen motion, camera pan	-
	filter	Filter diagram on yellow pad with hand motion	Voice Background - moderate level, narrowband noise
	ysmite	Yosemite map with hand motion (slowly varying intensity fluctuations)	Voice Background - moderate level, narrowband noise
	inspec	Woman at viewgraph projector	Voice Background - moderate level, narrowband noise
E (High object and/or camera motion)	flogar	Flower garden with windmill, camera pan	-
	ftball	Football game	-
	fredas	Fred Astaire tap dancing (Black and White, VHS source)	Music and taps - level jumps up 5 seconds after start Background - quality consistent with older black and white movie soundtracks

**Table 2: Sample Images of Test Scenes**




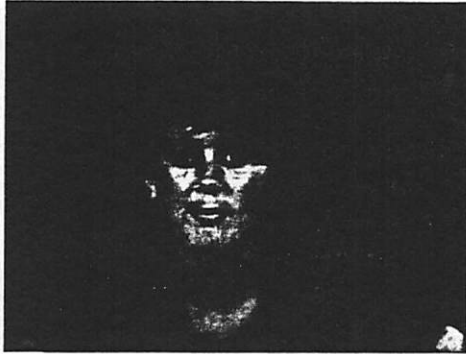
A. One person, mainly head and shoulders	
 <p>vtclnw</p>	 <p>susie</p>

Table 2: Sample Images of Test Scenes

 <p data-bbox="472 676 548 704">disguy</p>	 <p data-bbox="1094 676 1170 704">disgal</p>
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B. One person with graphics and/or more detail

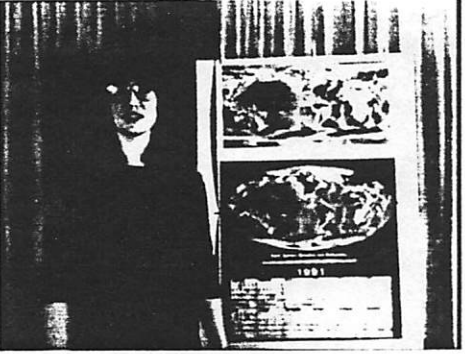
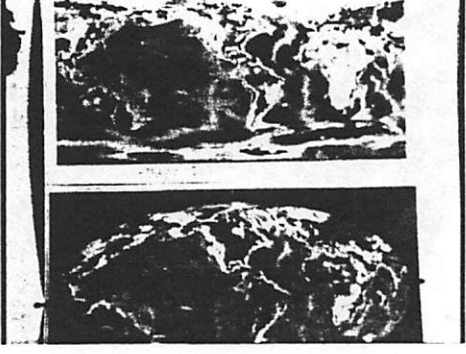
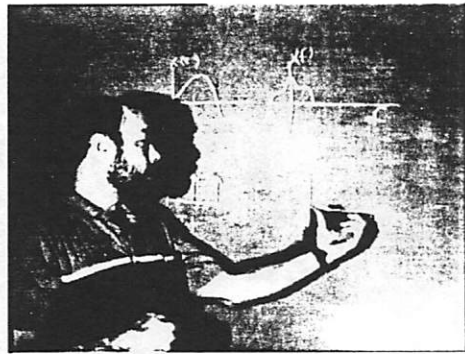


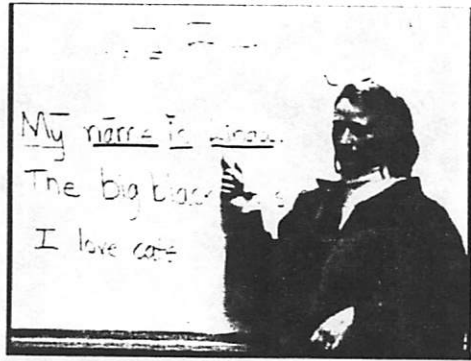
 <p data-bbox="472 1270 548 1298">vtc2mp</p>	 <p data-bbox="1094 1270 1170 1298">vtc2zm</p>
 <p data-bbox="472 1747 548 1774">boblec</p>	 <p data-bbox="1094 1747 1170 1774">smity1</p>

Table 2: Sample Images of Test Scenes

 <p>smity2</p>	 <p>vowels</p>
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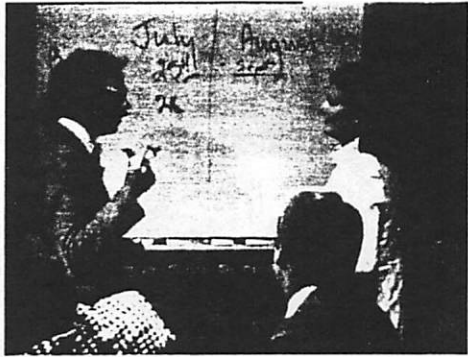

<p>C. More than one person</p>	
 <p>3inrow</p>	 <p>5row1</p>
 <p>intros</p>	 <p>3twos</p>



Table 2: Sample Images of Test Scenes

 <p>2wbord</p>	 <p>split6</p>
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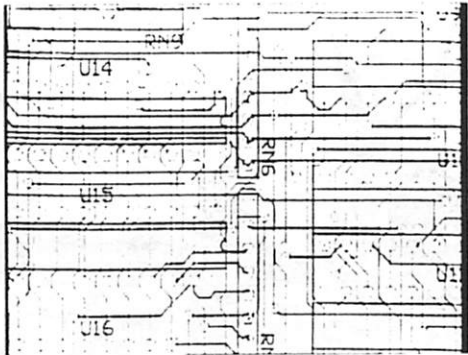
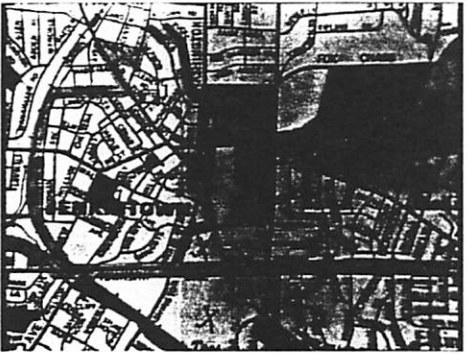
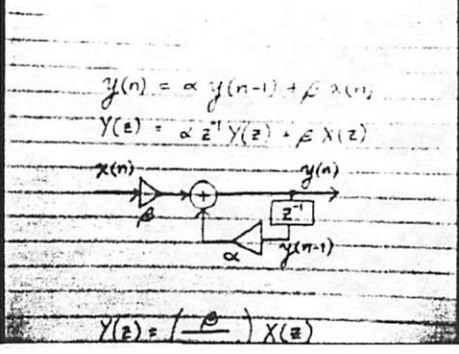
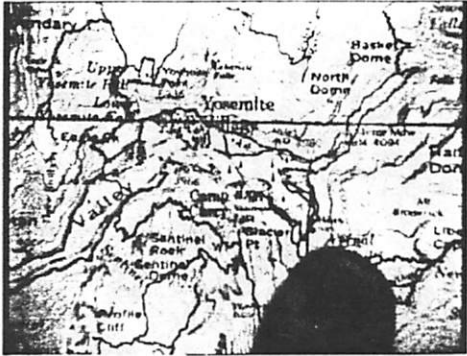



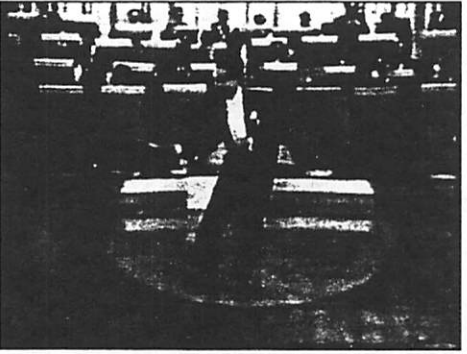
<p>D. Graphics with pointing</p>	
 <p>washdc</p>	 <p>cirkit</p>
 <p>rodmap</p>	 <p>filter</p>

Table 2: Sample Images of Test Scenes

 <p>ysmite</p>	 <p>inspec</p>
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E. High object and/or camera motion

 <p>flogar</p>	 <p>ftball</p>
 <p>fredas</p>	

3.2 Availability of Test Tape.

All of the video test scenes described in this standard are in the public domain.

**DRAFT AMERICAN NATIONAL STANDARD**

**The tape containing the scenes is available in the D2 digital format. Requests for copies of this tape should be made to...**