Section 4 - Color and Channel Frequency Response Test

System Name: Durham
Test Point Location: 924 Ellis Rd Durham, NC
Date of Test: 1-29-04 Time: 14:00
Tech(s) Performing Test: Celus Forbes

Highest Band Pass: 750 MHz
Test Point Number: 0.2
Temperature: 75°F

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	HP 8591C	4115A04957	7-28-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator			
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2		-22 ns	2.0%	2.0°	0.3 db
5		52 ns	3.8%	5.5°	0.9 db
9		-27 ns	2.8%	1.3°	0.4 db
22		-23 ns	2.1%	1.2°	0.3 db
26		34 ns	7.0%	4.6°	0.6 db
29		79 ns	7.8%	4.7°	0.9 db
33		83 ns	7.6%	7.6°	0.8 db
38		-16 ns	1.9%	3.4°	0.4 db
49		43 ns	4.4%	4.5°	0.3 db
57		-30 ns	5.2%	7.1°	0.5 db
75		37 ns	3.5%	1.7°	0.3 db
116		-26 ns	3.3%	2.8°	0.7 db

Section 4 - Color and Channel Frequency Response Test

System Name: WARRENTON Highest Band Pass: 750
Test Point Location: S. MAIN ST Test Point Number: 1
Date of Test: 2-11-04 Time: 11:10 Temperature: 48°F
Tech(s) Performing Test: BOBBY OLIVIAM

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	HP8591C	3829A02949	7-28-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator			
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	-78			0.3
10	VITS				0.5
9	VITS				0.7
25	VITS				0.4
28	VITS				0.3
33	VITS				0.9
38	VITS				0.4
49	VITS				0.2
57	VITS				0.3
68	VITS				0.4
75	VITS				0.4
116	VITS				0.7

Section 4 - Color and Channel Frequency Response Test

System Name: HENDERSON
Test Point Location: HIBERNIA RD.
Date of Test: 2-10-04 Time: 1:50
Tech(s) Performing Test: BOBBY DEBNAM

Highest Band Pass: 750
Test Point Number: 2
Temperature: 55°F

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	HP 8591C	3829A02949	7-25-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator			
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	-89			0.2
10	VITS				0.5
9	VITS				0.7
25	VITS				0.3
28	VITS				0.2
33	VITS				0.9
38	VITS				0.3
49	VITS				0.1
57	VITS				0.3
68	VITS				0.4
25	VITS				0.4
116	VITS				0.4

Section 4 - Color and Channel Frequency Response Test

System Name: 20415BABG Highest Band Pass: 750
Test Point Location: 419 Hwy 561 Test Point Number: 3
Date of Test: 2-11-04 Time: 12:45 Temperature: 50°F
Tech(s) Performing Test: Bobby Oebnam

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	HP8591C	3829A02949	7-28-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator			
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.
For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .
As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.
Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.
Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	-83			0.5
10	VITS				0.2
9	VITS				0.4
25	VITS				0.3
28	VITS				0.2
33	VITS				0.8
38	VITS				0.5
49	VITS				0.3
57	VITS				0.4
68	VITS				0.5
75	VITS				0.5
116	VITS				0.8

Section 4 - Color and Channel Frequency Response Test

System Name: HENDERSON
Test Point Location: 77 CLARK LN
Date of Test: 2-10-04 Time: 12:05
Tech(s) Performing Test: BOBBY DEBNAM

Highest Band Pass: 750
Test Point Number: 4
Temperature: 50°F

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	HP8591C	3829A02949	7-28-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator			
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	-85			0.1
10	VITS				0.3
9	VITS				0.7
25	VITS				0.1
28	VITS				0.2
33	VITS				0.3
38	VITS				0.3
49	VITS				0.3
57	VITS				0.5
68	VITS				0.5
75-[illegible]	VITS				0.3
116	VITS				0.8

Section 4 - Color and Channel Frequency Response Test

System Name: HENDERSON / OXFORD
Test Point Location: POCKETT 4
Date of Test: 2-10-04 Time: 3:45 PM
Tech(s) Performing Test: BOBBY OEBNAM

Highest Band Pass: 750
Test Point Number: 5
Temperature: 55°F

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	HP8591C	3829A02949	7-28-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator			
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	-88			0.2
10	VITS				0.2
9	VITS				0.9
25	VITS				0.2
28	VITS				0.1
33	VITS				0.6
38	VITS				0.2
49	VITS				0.3
57	VITS				0.6
68	VITS				0.6
75	VITS				0.4
116	VITS				0.9

Section 4 - Color and Channel Frequency Response Test

System Name: Chapel Hill
Test Point Location: Sawmill
Date of Test: 2-5-04 Time: 9:30
Tech(s) Performing Test: M. Fuith

Highest Band Pass: 750 MHz
Test Point Number: 6
Temperature: 40°

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	AGILENT 8591C	3513A00794	12-18-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator	VIDEOTEK VIT-411	070300850	7-8-03
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	GEN	101			.8
6	VITS				.6
9	VITS				.2
22	GEN				.6
26	VITS				.3
29	GEN				.4
33	GEN				-.5
38	VITS				-.5
53	VITS				.1
57	VITS				.7
75	GEN				.7
116	VITS				.3

Section 4 - Color and Channel Frequency Response Test

System Name: Chapel Hill — Highest Band Pass: 750MHz
Test Point Location: Hoover — Test Point Number: 7
Date of Test: 2-5-04 — Time: 3:30 — Temperature: 47°
Tech(s) Performing Test: M. Finch

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	AGILENT 8591C	3513A00794	12-18-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator	VIDEOTEK VIT-411	070300050	7-8-03
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	~70			.2
5	VITS				.3
9	VITS				.4
22	VITS				.7
26	VITS				.8
29	GEN				.7
33	GEN				.4
38	VITS				.7
53	VITS				.8
57	VITS				.2
75	GEN				.1
116	VITS				.3

Section 4 - Color and Channel Frequency Response Test

System Name: Durham
Test Point Location: Lavender
Date of Test: 2-6-04 Time: 9:05
Tech(s) Performing Test: M Finch

Highest Band Pass: 750 MHz
Test Point Number: 8
Temperature: 43°

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	AGILENT 8591C	3537A00764	12-18-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator	VIDEOTEK VIT-411	0705000SC	7-8-03
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	-81			.4
5	VITS				.4
9	VITS				.2
22	VITS				.5
26	VITS				.4
29	GEN				.7
33	GEN				.2
39	VITS				.6
53	VITS				.3
57	VITS				.4
75	GEN				.2
116	VITS				.5

Section 4 - Color and Channel Frequency Response Test

System Name: Durham
Highest Band Pass: 750 MHz
Test Point Location: CAMERON
Test Point Number: 9
Date of Test: 2-3-04 Time: 8:00
Temperature: 38°
Tech(s) Performing Test: M Fink
J Schmitt

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	HP/AGILENT 8591C	3537A00794	12-18-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator	VIDEOTEK VIT-411	0705000SC	7-Feb-03
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	-99			.5
5	VITS				.4
9	VITS				.7
22	VITS				.3
26	VITS				.8
29	GEN				.5
33	GEN				.3
38	VITS				.2
53	VITS				.4
57	VITS				.1
75	GEN				.3
116	VITS				.2

Section 4 - Color and Channel Frequency Response Test

System Name: Durham
Test Point Location: Dixon Rd.
Date of Test: 2-2-04 Time: 2:20
Tech(s) Performing Test: Mike Finch
John Schmitt

Highest Band Pass: 750 MHz
Test Point Number: 10
Temperature: 58°

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	AGILENT 859K	3573A00794	12-18-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator	VIDEOTEK VIT-411	07050005C	7-8-03
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	-25			.8
5	VITS				.5
9	VITS				.7
22	VITS				.4
26	VITS				.5
29	GEN				.3
33	GEN				.2
38	VITS				.3
53	VITS				.3
57	VITS				.2
75	GEN				.4
116	VITS				.7

Section 4 - Color and Channel Frequency Response Test

System Name: Durham
Highest Band Pass: 750MHz
Test Point Location: 7 ARborField
Test Point Number: 11
Date of Test: 2-2-04 Time: 9.00
Temperature: 40°
Tech(s) Performing Test: M Frichs
J Schoutt

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	Agilent 8591C	3573A00794	12-18-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator	VideoTek VIT-41	07C500050	7-8-03
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	-46			.5
5	VITS				.7
9	VITS				.8
22	VITS				.4
26	VITS				.4
29	GEN				.2
33	GEN				.5
38	VITS				.5
53	VITS				.6
57	VITS				.4
75	GEN				.3
116	VITS				.4

Section 4 - Color and Channel Frequency Response Test

System Name: Durham
Test Point Location: 8021 MASSEY CHAPEL
Date of Test: 2-2-04 Time: 11:10
Tech(s) Performing Test: M Fuchs
J Schmitt

Highest Band Pass: 750MHz
Test Point Number: 12
Temperature: 39°

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	HP/AGILENT 8591C	3537A00794	12-18-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator	VIDEOTEK VIT-411	0705000SC	7-8-03
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	-24			.5
5	VITS				.7
9	VITS				.2
22	VITS				.1
26	VITS				.3
29	GEN				.5
33	GEN				.3
38	VITS				.3
53	VITS				.4
57	VITS				.2
75	GEN				.4
116	VITS				.3

Section 4 - Color and Channel Frequency Response Test

System Name: Chapel Hill
Test Point Location: Ashford
Date of Test: 2-6-04 Time: 12:00
Tech(s) Performing Test: M Finch

Highest Band Pass: 750MHz
Test Point Number: 13
Temperature: 44°

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	AGILENT 8591C	3513A00794	12-18-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator	VIDEOTEK VIT-411	070300050	7-8-03
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	-42			.3
5	VITS				.4
9	VITS				.3
22	VITS				.2
26	VITS				.6
29	Gen				.6
33	Gen				.3
38	VITS				.4
53	VITS				.2
57	VITS				.5
75	Gen				.1
116	VITS				.3

Section 4 - Color and Channel Frequency Response Test

System Name: Durham
Test Point Location: Sprucepine
Date of Test: 2-3-04 Time: 3:00
Tech(s) Performing Test: TM Finch

Highest Band Pass: 750 MHz
Test Point Number: 14
Temperature: 43°

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	AGILENT 8591C	357.3A00714	12-18-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator	VIDEOTEK VIT-411	0703000SC	7-8-03
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	-96			.5
5	VITS				.7
9	VITS				.6
22	VITS				.8
26	VITS				.4
29	GEN				.4
33	GEN				.4
39	VITS				.2
53	VITS				.1
57	VITS				.3
75	GEN				.3
116	VITS				.3

Section 4 - Color and Channel Frequency Response Test

System Name: Chapel Hill
Test Point Location: New Hope
Date of Test: 2-5-04 Time: 12:00
Tech(s) Performing Test: M Finch

Highest Band Pass: 750MHz
Test Point Number: 15
Temperature: 43°

Equipment Used	Make/Model	Serial Number	Last Calibration Date
Spectrum Analyzer	AGILENT 8591C	3513A00794	12-18-03
Waveform Monitor			N/A
Vectorscope			
Test Demodulator			
Video Sigl. Generator	VIDEOTEK VTG-411	070300050	7-8-03
Band Pass Filter 1			N/A
Band Pass Filter 2			N/A

Test Setup used: The 30 meeter (98.45 foot) cable drop from the test point is fed into the Test Demodulator. The video output of the test demodulator is fed to the Video Waveform Monitor, and looped through to the Vectorscope. The required "12.5T modulated Sine-squared Pulse" and "Modulated Stair Step" test signals are generated by the Video Signal Generator or are received as part of the VITS provided by the program source. Care should be exercised when using VITS signals supplied by the program source. Such VITS signals may arrive at the Headend with imperfections that could result in failed tests. Following good engineering practices and NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, Chrominance to Luminance Delay Inequality, Differential Gain, and Differential Phase measurements are performed on the required channels. The results are recorded below.

For Channel Frequency Response measurements the Multiburst test signal is acquired on the Waveform Monitor. Six frequency packets should be observed (for the Combination Test Signal the packets will be .5, 1, 2, 3, 3.58, and 4.2 MHz).. Measure the amplitude of the largest and smallest multiburst packets. Divide the largest measurement by the smallest and determine the natural Log of the result. Multiply this number by 20 to obtain the channel frequency response in dB. .

As an alternative, automated test equipment such as the Hewlett Packard 8591C Spectrum Analyzer or Tektronics VM700 may be used to perform these tests. All automated measurements should be performed in accordance with the manufacture's specifications. Because some automated test measurements may be affected positively or negatively by factors not related to the test being performed, manual measurements should be made on a minimum of two channels for comparison with the automated measurements. If there is more then a 5 percent difference between the automated and manual measurements, manual measurements should be performed on each channel.

Number of Measurements: The measurements are to be made at the Headend on widely spaced channels with the number of test channels being a minimum of 4 channels plus one channel for each 100 MHz or fraction thereof of cable distribution system uper bandwidth. (See Specifications page viii). Additionally, Chrominance to Luminance Delay Inequality must be measured at all field test points on channel 2.

Minimum Specifications: All minimum specifications are listed in [ ] below. All units are listed in ( ).

Ch.	Signal Source (VITS/Gen.)	Chroma Delay [170 max.] (Nanoseconds)	Diff. Gain [+/- 20 %] (Percent)	Diff. Phase [+/- 10 Deg.] (Degrees)	Frequency Response [+/- 2 dB] (dB)
2	VITS	72			.1
5	VITS				.5
9	VITS				.3
22	VITS				.6
26	VITS				.4
29	Gen				.8
33	Gen				.4
38	VITS				.3
53	VITS				.5
57	VITS				.6
75	Gen				.3
116	VITS				.8