NETCONNECT* CHAMP SYSTEM 5* System Testing

1. INTRODUCTION

1.1. Purpose

Testing was performed on the AMP* NETCONNECT*CHAMP SYSTEM 5 to determine its conformance to the requirements of AMP Product Specification 108-1698 Rev. O.

1.2. Scope

This report covers the electrical performance of the CHAMP SYSTEM 5 manufactured by Communications Business. The testing was performed between September 4, 1996 and January 24, 1997.

1.3. Conclusion

The CHAMP SYSTEM 5 as listed in paragraph 1.5, meet the electrical performance requirements of AMP Product Specification 108-1698 Rev O.

1.4. Product Description

CHAMP SYSTEM 5 can be set up in many different configurations. See Para 2. which shows the specific configurations tested.

1.5. Test Samples

The test samples were randomly selected from normal current production lots, and the following part numbers were used for test:

Test Group	Quantity	Part Number	Description
1,2,3	1 each	558694-1	CHAMP Sys 5 Patch Panel
1,2,3	1 each	569537-1	CHAMP Sys 5 Patch Panel
1,2,3	1 each	569230-1	CHAMP Sys 5 Patch Panel
1,2,3	1 each	569596-1	Pre-Stubbed 110 Block
1,2,3	1 each	406213-1	1U Patch Panel T568A wiring
1,2,3	1 each	406214-1	1U Patch Panel T568B wiring
1,2,3	3 each	57667-1	10 meter, 25 pair feeder cable
1,2,3	6 each	1-558693-1	CHAMP Sys 5 Plug
1,2,3	6 each	569335-1	CHAMP Sys 5 Strain relief
1,2,3	3 each	558038-1	CHAMP Sys 5 Distribution Box
1,2,3	3 each	57248	10 meter, 4 pair cable
1,2,3	3 each	569012	110 jack, 568A wiring
1,2,3	6 each	554720-1	Solid wire modular plug
1,2,3	3 each	558908	ACO jack, 568A wiring
1,2,3	3 each	569521-1	CHAMP Sys 5 Distribution Box
1,2,3	3 each	569014	110 jack, 568B wiring
1,2,3	3 each	558909	ACO jack, 568B wiring
1,2,3	3 each	558036-1	CHAMP Sys 5 Distribution Box
1,2,3	3 each	97-1376-02	10 meter bundled 4 pair feeder cable (24 pairs)

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I Indicates change

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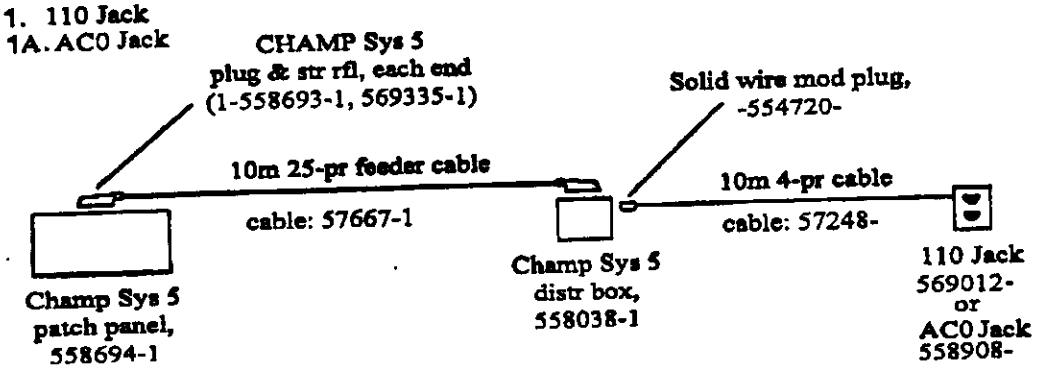
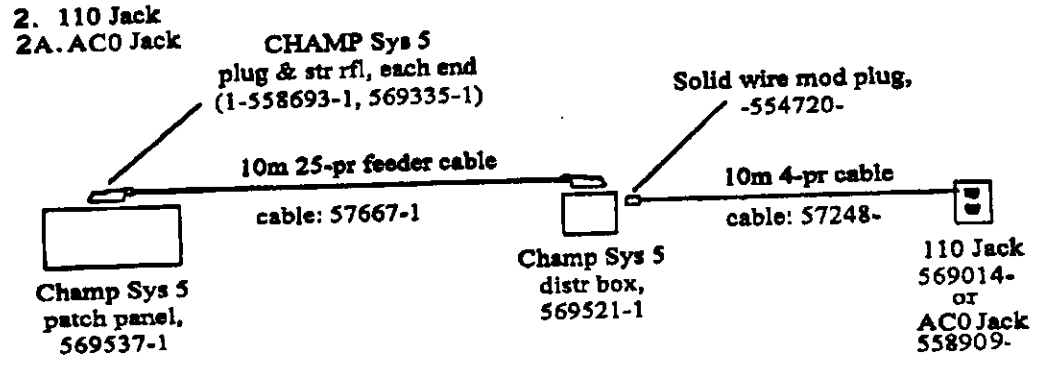
1.6. Qualification Test Sequence

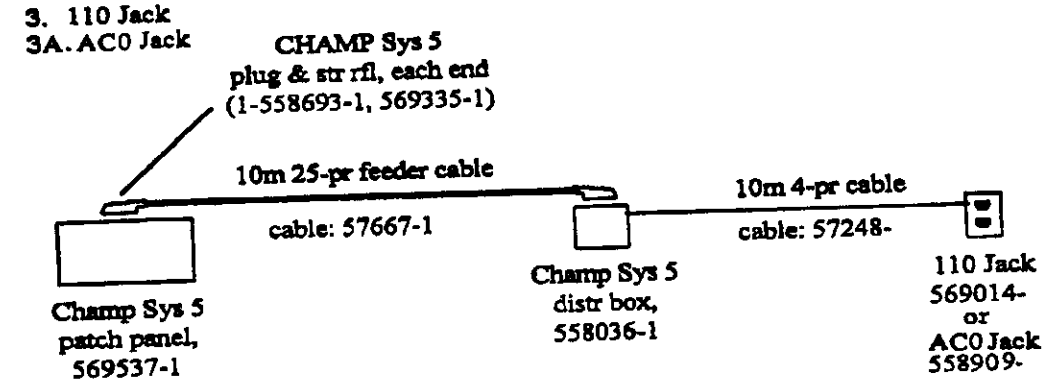
Test or Examination	Test Group		
	1	2	3
Examination of Product	1,5	1,5	1,5
Attenuation	2	2	2
Near End Crosstalk	3	3	3
Attenuation Crosstalk Ratio (ACR)	4	4	4

NOTE *The numbers indicate sequence in which tests were performed.*

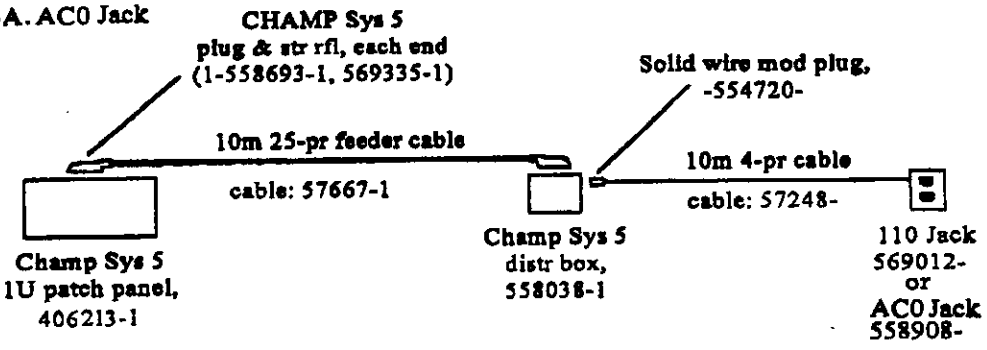
2. SPECIFIC TEST CONFIGURATIONS



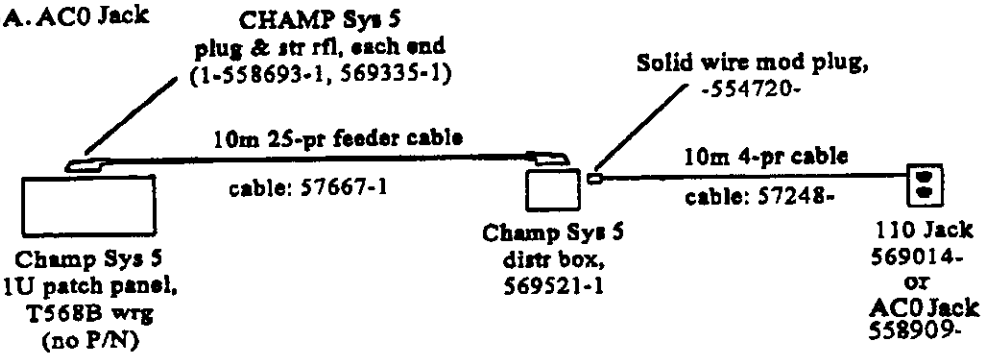




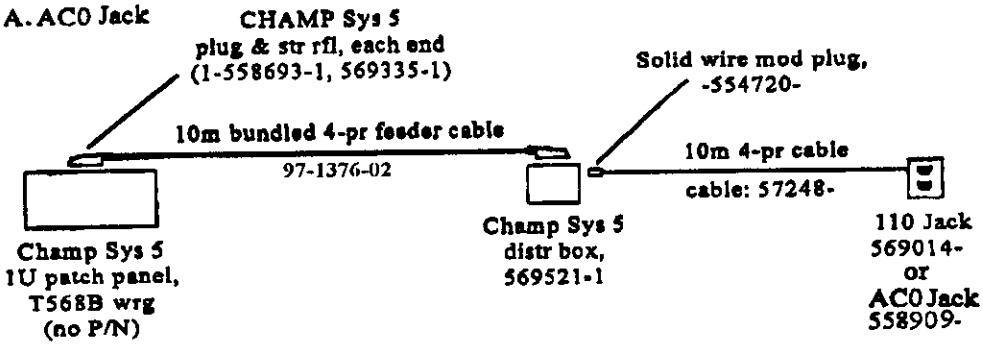
4. 110 Jack
4A. AC0 Jack



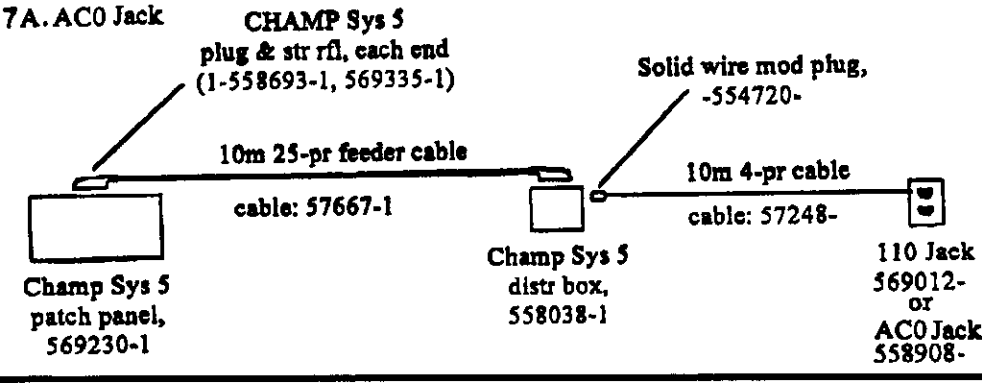
5. 110 Jack
5A. AC0 Jack

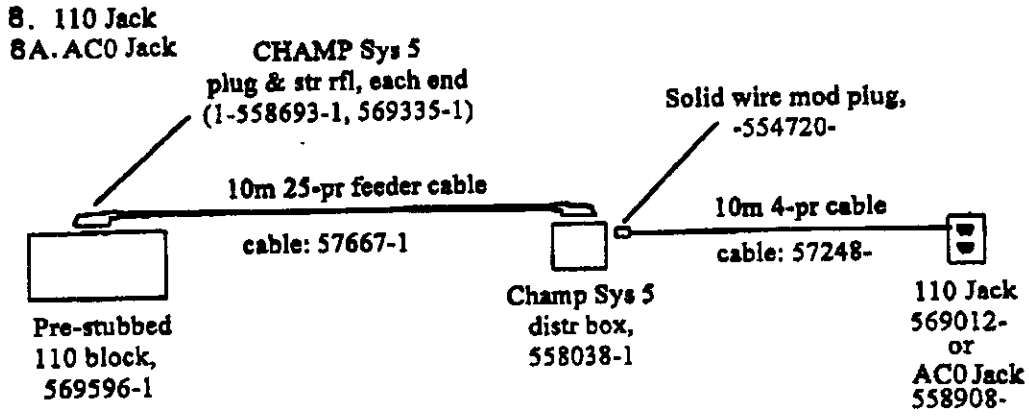


6. 110 Jack
6A. AC0 Jack



7. 110 Jack
7A. AC0 Jack





3. SUMMARY OF TESTING

3.1. Examination of Product - All Groups

All samples submitted for testing were randomly selected from current production lots. Where specified, samples were visually examined and no evidence of physical damage detrimental to product performance was observed.

3.2. Attenuation - Group

All attenuation results were within the limits specified in Table 1.

3.3. Near End Crosstalk - Group

All near-end crosstalk results were within the limits specified in Table 1.

3.4. ACR - Group

All ACR results were within the limits specified in Table 1.

Frequency (MHz) See Note (a)	Near End Crosstalk Loss (dB) See Note (b)	Attenuation (dB) See Note (b)	ACR (dB) See Note (c)
1.0	60.0	2.5	40
4.0	50.6	4.5	40
8.0	45.6	6.3	---
10.0	44.0	7.0	35
16.0	40.6	9.2	30
20.0	39.0	10.3	28
25.0	37.4	11.4	---
31.25	35.7	12.8	23
62.5	30.6	18.5	13
100.0	27.1	24.0	4

NOTE

(a) *Per* TIA/EIA-568-A. *ISO/IEC 11801 for ACR.*
(b) *Values are derived from a curve defined by frequency boundaries per* TIA/EIA-568-A.
(c) *Values are derived from a curve defined by frequency boundaries per* ISO/IEC 11801.

Table 1
Performance Requirements

4. TEST METHODS

4.1. Examination of Product

Where specified, samples were visually examined for evidence of physical damage detrimental to product performance.

4.2. Attenuation

A network analyzer was used to measure the scattering parameters S_{11} and S_{21} of the sample. The attenuation was then calculated from these measurements.

4.3. Near End Crosstalk

Sinusoidal frequencies of 1 to 100 MHz were applied to one end of the "driven line". The "quiet line" was monitored with a network analyzer to measure any crosstalk signals.

4.4. ACR

This is the difference between the near end crosstalk and the attenuation of the system under test in dB.

$$\text{ACR (dB)} = \text{crosstalk (dB)} - \text{attenuation (dB)}$$

5. VALIDATION

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