

International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

H.248.17

(03/2013)

SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Communication
procedures

Gateway control protocol: Line test packages

Recommendation ITU-T H.248.17



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Recommendation ITU-T H.248.17

Gateway control protocol: Line test packages

Summary

Recommendation ITU-T H.248.17 describes line test components and how they are used across an MGC/MG ITU-T H.248.1 interface to complete line tests.

This revision incorporates a correction to an incorrect signal identity in clause 8.3.1.2.

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T H.248.17	2002-11-29	16
1.1	ITU-T H.248.17 (2002) Cor. 1	2004-03-15	16
2.0	ITU-T H.248.17	2013-03-16	16

FOREWORD

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The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

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In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

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Recommendation ITU-T H.248.17

Gateway control protocol: Line test packages

1 Scope

This Recommendation describes line test components and how they are used to complete line tests. The definition of line test components, rather than of complete line tests, allows the media gateway controller (MGC) and media gateway (MG) to implement a minimal set of signals and packages to achieve a larger set of line tests. It is assumed that the media gateway controller is responsible for sequencing and timing of the line test components to complete the relevant line tests. The detailing of results that are reported (e.g., events and statistics), as well as the timing and mechanisms used for transmitting such records from the MG to the MGC, are outside the scope of this Recommendation.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T G.711]	Recommendation ITU-T G.711 (1988), <i>Pulse code modulation (PCM) of voice frequencies.</i>
[ITU-T H.248.1]	Recommendation ITU-T H.248.1 (2013), <i>Gateway control protocol: Version 3.</i>
[ITU-T O.6]	Recommendation ITU-T O.6 (1988), <i>1020 Hz reference test frequency.</i>
[ITU-T O.11]	Recommendation ITU-T O.11 (1992), <i>Maintenance access lines.</i>
[ITU-T O.22]	Recommendation ITU-T O.22 (1992), <i>CCITT automatic transmission measuring and signalling testing equipment ATME No. 2.</i>
[ITU-T O.152]	Recommendation ITU-T O.152 (1992), <i>Error performance measuring equipment for bit rates of 64 kbit/s and $N \times 64$ kbit/s.</i>
[ITU-T Q.107]	Recommendation ITU-T Q.107 (1988), <i>Standard sending sequence of forward address information.</i>
[ITU-T Q.551]	Recommendation ITU-T Q.551 (2002), <i>Transmission characteristics of digital exchanges.</i>
[ITU-T Q.1950]	Recommendation ITU-T Q.1950 (2002), <i>Bearer independent call bearer control protocol.</i>
[ANSI T1.206]*	ANSI T1.206-1994, <i>Digital exchanges and PBXs – Digital circuit loopback test line with NxDS0 capability.</i>

* T1 standards are maintained since November 2003 by ATIS.

[ANSI T1.207]*

ANSI T1.207-2000, *Operations, Administration, Maintenance and Provisioning (OAM&P) – Terminating Test Line Access and Capabilities*.

[TTC Standard JJ-90-10]

TTC Standard JJ-90-10 Ver7.1 (2006), *Inter-carrier Interface based on ISUP*.

<[http://www.ttc.or.jp/jp/document_list/pdf/e/STD/JJ-90.10\(E\)v7.1.pdf](http://www.ttc.or.jp/jp/document_list/pdf/e/STD/JJ-90.10(E)v7.1.pdf)>

3 Definitions

This Recommendation defines the following terms:

3.1 Add/Move/Modify (AMM): Commands as defined by [ITU-T. H.248.1].

3.2 Modify/Move (MM): Commands as defined by [ITU-T H.248.1].

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

ANSI	American National Standards Institute
ATME	Automatic Test and Measurement Equipment
CMS	Circuit Multiplication Systems
MG	Media Gateway
MGC	Media Gateway Controller
PCM	Pulse Code Modulation
TE	Test Equipment
TTC	Telecommunication Technology Committee

5 Test system architecture and flows

Figure 1 gives an example of a test system architecture in a split MGC/MG switching centre with the test equipment separate from the switching centre.

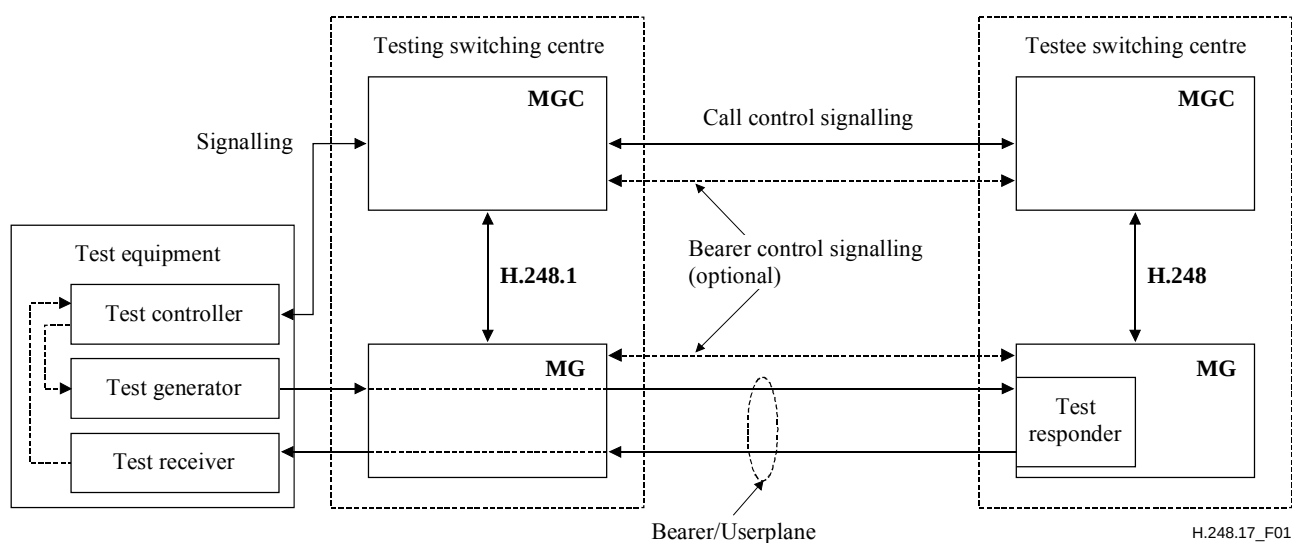


Figure 1 – Test system architecture (TE separate)

In Figure 1, the functionality of the test responder in the testee switching centre may be implemented through the procedures defined in clause 8. This Recommendation does not give guidance on implementing the testing switching centre, nor the test equipment for the example shown in Figure 1.

Figure 2 gives an illustration of a test system architecture in a split MGC/MG switching centre with the test equipment combined with the switching centre.

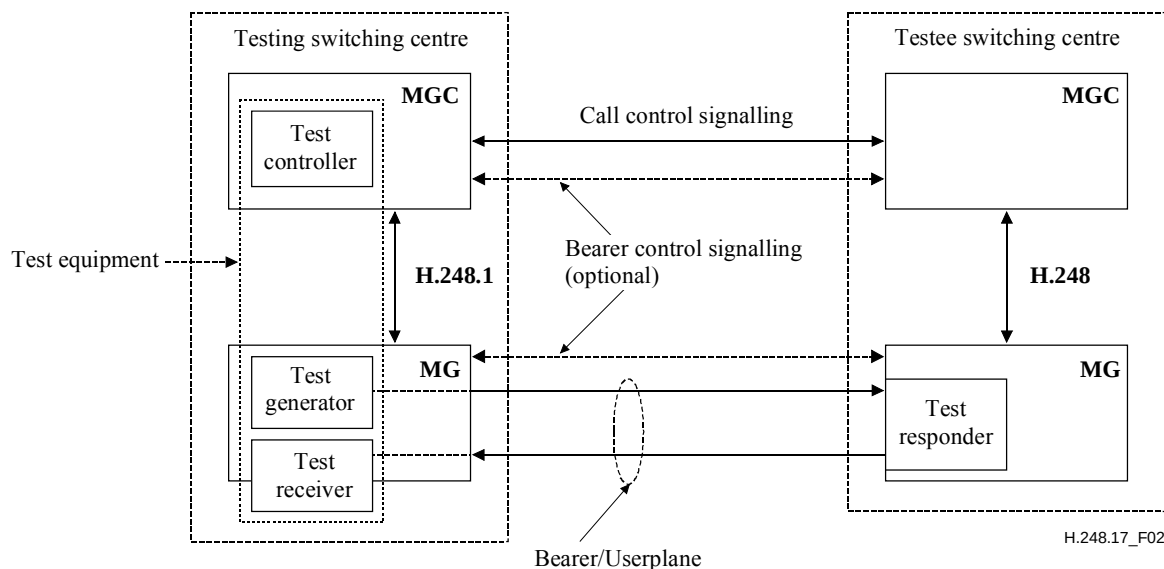


Figure 2 – Test system architecture (TE combined)

In Figure 2, the functionality of the test controller, test generator and test responder in the testee switching centre may be implemented through the procedures defined in clauses 7 and 8.

In certain scenarios, the role of the testing and testee switching centres may be combined into one switching centre, for example, to test the successful addition of new components (routes, MGs) to a switching centre. The examples in the above figures are not exhaustive and other test architectures may be implemented by using the test components and procedures from this Recommendation.

This Recommendation describes the use of various ITU-T H.248.1, packages, signals, parameters and procedures across the MGC/MG interface in the testee switching centre. The MGC/MG interface is common to both the TE combined and TE separated architectures depicted above. This Recommendation also describes the test procedures across the MGC/MG interface between the test controller and test generator in the testing switching centre in the architecture with TE combined.

This Recommendation does not provide any guidance on the procedures and ITU-T H.248.1 information elements used across the MGC/MG interfaces for normal ITU-T H.248.1 connection establishment procedures. The procedures and information elements used across the interface will be dictated by the call control used. This Recommendation does not provide guidance as to what point in a call control signalling the line test components should be sent. This information is provided in the relevant line test Recommendations e.g., [ITU-T O.11] and [ANSI T1.207].

At the switching centres, the MGC may use of a number of test components to complete a certain line test. Clause 6 provides details of these test components. Clause 7 provides the procedures to initiate the relevant line tests. Clause 8 provides the procedures to respond to the relevant line test. The test components and line tests procedures are documented according to the standard they are defined in.

Figure 3 is an example of the "Analogue Loopback Test Line" test described in clause 1.5.1 of [ITU-T O.11]. It shows how the line test components as assembled to form a response to a line test.