



INTERNATIONAL TELECOMMUNICATION UNION

CCITT

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

G.796

(09/92)

**GENERAL ASPECTS OF DIGITAL
TRANSMISSION SYSTEMS;
TERMINAL EQUIPMENTS**

**CHARACTERISTICS OF A 64 kbit/s
CROSS-CONNECT EQUIPMENT WITH
2048 kbit/s ACCESS PORTS**

Recommendation G.796



Geneva, 1992



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FOREWORD

The CCITT (the International Telegraph and Telephone Consultative Committee) is a permanent organ of the International Telecommunication Union (ITU). CCITT is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The Plenary Assembly of CCITT which meets every four years, establishes the topics for study and approves Recommendations prepared by its Study Groups. The approval of Recommendations by the members of CCITT between Plenary Assemblies is covered by the procedure laid down in CCITT Resolution No. 2 (Melbourne, 1988).

Recommendation G.796 was prepared by Study Group XV and was approved under the Resolution No. 2 procedure on the 1st of September 1992.

CCITT NOTE

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

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Recommendation G.796

CHARACTERISTICS OF A 64 kbit/s CROSS-CONNECT EQUIPMENT WITH 2048 kbit/s ACCESS PORTS

(1992)

Scope

This Recommendation gives the characteristics of a synchronous cross-connect equipment to be used in a synchronized digital network and which cross-connects time slots at 64 kbit/s or $n \times 64$ kbit/s from/to any 2048 kbit/s access port.

1 General characteristics

1.1 Capacity

This parameter depends mainly on the network architecture. It can change with time. Increasing an equipment should not disturb the existing data traffic.

1.2 Access ports

Access ports of a cross-connect equipment are input and output ports used to terminate 2048 kbit/s signals transporting synchronous 64 kbit/s and $n \times 64$ kbit/s signals to be cross-connected (see § 3).

1.3 Timing signal

1.3.1 Control of timing signal

It should be possible to derive the internal timing signal from the following:

- a) one from a number of external source(s) at 2048 kHz;
- b) one from a number of 2048 kbit/s signal(s);
- c) from an internal oscillator.

The frequency accuracy of signals in items a) and b) above will normally be $\pm 1 \times 10^{-11}$. To take into account possible frequency deviations on these signals occurring due to failure in the synchronous network, the design of timing derivation circuits should assume a frequency accuracy of ± 1 ppm.

Note – The provision of timing signal outputs available for the purpose of synchronizing other equipments, is an option that might be required depending upon national synchronization arrangements.

1.3.2 Timing performance

The timing performance of the internal clock should comply with Recommendation G.812. In the holdover mode, the local clock requirements of § 2.2.3 of Recommendation G.812 should be met.

Note – For other timing performance options, refer to § 6.3 below.

1.4 Blocking factor

For the mandatory functions in § 2.1 below, the blocking factor should be zero for cross-connect equipment of size up to 256 access ports of 2048 kbit/s; a zero blocking factor for the case of greater than 256 access ports is desirable. For the optional functions in § 2.2, the blocking factor should be as low as possible; the maximum value is under study.

See Notes in §§ 2.1 and 2.2 below.