THE DRAWINGS CONTAINED IN THIS SUPPLEMENT HAVE BEEN DONE IN AUTOCAD.

Supplement No. 3

TELEX SIGNALLING ARRANGEMENTS IN THE NORDIC MARITIME SATELLITE COAST EARTH STATION

(*Source:* Norway)

1 Introduction

1.1 In response to Recommendation U.4, this supplement describes the signalling conditions of the Nordic maritime satellite coast earth station.

1.2 The coast earth station is planned to commence operation in the autumn of 1981. The station will be located at Eik in the south western part of Norway.

1.3 The station will provide fully automatic telex service to ships in the Maritime Satellite Service operating in the Indian Ocean region. The station will operate as an international gateway exchange connected to the international exchange in Oslo which for this purpose will act as a transit exchange.

Since the station has full switching capabilities for telex, it may also be connected to other international gateway exchanges but the traffic is expected to be too small at the outset to merit such a solution.

1.4 It should be noted that some of the timings required in order to interwork properly with the maritime satellite system will be different from those otherwise encountered towards the gateway exchange in Oslo.

2 Numbering and routing

2.1 At the outset the station will accept ship identities in accordance with the MARISAT numbering plan, i.e. seven digit octal numbers. The station is prepared for accepting six digit decimal numbers in accordance with Recommendation F.120/E.210 [1] and will furthermore be capable of operating with a mixed numbering plan during the period of transition from MARISAT numbers to CCITT numbers.

2.2 The F.69 [2] code to be used towards the coast earth station will be 583.

2.3 Provisions for group calls to ships will be made available. However, only calls to all ships in the ocean region will be provided at the outset (i.e. using MARISAT numbers 1 000 000 or CCITT numbers 000 000).

When the new numbering plan of Recommendation F.120/E.210 [1] is introduced, group calls to other groups of ships will also be provided for.

The procedure used for authorization of the calling subscriber is that defined in Recommendation U.61. At the outset a group call facility may be offered to 100 subscribers.

3 Operator facilities

No operator facilities will be provided at the coast earth station. However, such facilities will be offered at the gateway exchange in Oslo for traffic from other countries.

4 Telegram service

Telegrams to ships from telegram positions may be sent automatically using telex procedures.

5 Signalling

5.1 The timing diagrams for incoming traffic which is routed in transit via Oslo are shown in Figure 1. For completeness Figure 2 shows diagrams for traffic routed directly to the coast earth station. In both cases fully automatic working using type A signalling is provided for.

5.2 *Traffic via Oslo*

See Figure 1.

5.2.1 The first selection signal (combination No. 30) should be received within 15 s after sending the proceed—to—select signal. All selection signals including the F.69 [2] code, 583, of the Maritime Satellite Service must be sent en bloc at machine speed. The selection signals must always include the end—of—selection signal, combination No. 26 (+).

The class—of—traffic signal must be one of the combinations, No. 1, 11 or 21.

Note — Since the gateway exchange in Oslo now will offer transit routing to the coast earth station, the selection signals for calls terminating in Norway must include the F.69 [2] code (56) allocated to Norway.

5.2.2 The selection signals are acknowledged by a group of three digits.

5.2.3 The call—connected signal is sent by the coast earth station when the first character of the ship's answerback has been received at the coast earth station. The call connected signal may in exceptional cases be delayed by as much as 43 seconds relative to the last selection signal. This delay takes into account maximum delays encountered in the various stages of connecting the maritime terminal, i.e.

— through—connection delay at the gateway exchange in Oslo,

— transmission delays,

— queuing delays at the coast earth station (number analysis, access to the assignment channel),

— framing delays of the satellite telex channels,

— delays in repeating the assignment message at the Network Coordinating Station (NCS),

— response time of the ship station to return the answerback.

5.2.4 The outgoing exchange must not send the WRU signal in order to obtain the ship's answerback because the answerback will be sent automatically by the coast earth station, 2 to 3 seconds after the call connected signal.

Note — The ship's answerback will be stored at the coast earth station so that it may be returned at the machine speed whenever a WRU signal is detected on the forward path during conversation. This has been done because the 20 characters of the answerback as received from the ship may contain intervals of Z polarity of one character duration due to speed differences between the synchronous satellite channel and the on—board teleprinter. This would avoid misoperation of automatic sending equipment at the outgoing end such as store—and—forward facilities. However, the WRU signal thus received will be sent to the ship so that the continuity of the connection is verified before the answerback is returned.

Figure 1/Suppl. 3 - CCITT 47740

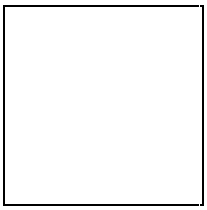
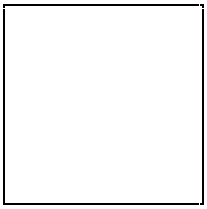


Figure 2/Suppl. 3 - CCITT 47750



5.2.5 The coast earth station is capable of returning the service signals **OCC**, **NA**, **NP**, **NC**, **DER** and **ABS**.

The service signals are sent subject to the following conditions:

— **NA**: access barred (e.g. group call from nonauthorized subscriber or ordinary call to nonauthorized ship);

— **OCC**: ship terminal busy (in most cases this will imply that the ship is busy with either another telex call or a telephone call);

— **NC**: congestion at the coast earth station or at the network coordinating station;

— **NP**: nonallocated ship number (e.g. incomplete selection information);

— **ABS**: ship is unavailable (e.g. ship is not within the coverage area of the satellite or ship terminal is out of service);

— **DER**: ship terminal equipment out of order (e.g. call set—up failure or no response to WRU).

Service signals **OCC**, **NA**, **NP** or **NC** will in the worst case not be delayed by more than a few seconds. However, **ABS**, will always be delayed by at least 10 seconds.

5.3 *Calls to operator position*

See Figure 1.

5.3.1 The selection signals must in this case be composed of the F.69 [2] code to Norway (56) followed by the three digits 000, the end—of—selection signal (combination No. 26) and a class of traffic signal which may be any of the combinations No. 1, 11 or 21. The selection signals must be sent en bloc at machine speed.

5.3.2 The call connected signal will be sent within 5 seconds after receipt of the last selection signal.

5.3.3 The call connected signal will be followed by a time signal within 2 seconds.

If the operator position is free, the position's name code followed by WRU will be sent immediately after the time signal.

5.3.4 If the position is busy, the call connected signal will be followed by a time signal and the **MOM** service signal. The **MOM** signal will be repeated every 30 seconds until an operator position becomes available. When the operator position is connected, the position's name code followed by Who Are You? will be sent.

5.3.5 The answerback of the outgoing operator position must be received within 15 seconds. Otherwise the call will be cleared without a service signal. (See Note 4 to Figure 1.)

5.4 *Direct connections to the coast earth station*

See Figure 2.

The same signalling procedures apply as for calls transitted through Oslo. However, the following should be noted:

5.4.1 The selection signals must in this case also be composed of the F.69 [2] code 583 followed by the ship's number, the end—of—selection signal combination No. 26 and a class of traffic signal which may be any of the combinations No. 1, 11 or 21. The selection signals must be sent en bloc at machine speed.

5.4.2 The proceed—to—select signal will be returned approximately 0.7 seconds after receipt of the call confirmation signal.

5.4.3 The first character of the selection signal must be received within 5 seconds relative to the proceed—to—select signal.

5.4.4. The time delay between the last character of the selection signal and the call connected signal will not exceed 35 seconds.

References

[1] CCITT Recommendation *Ship station identification for VHF/UHF and maritime mobile—satellite services*, Rec. F.120.

[2] CCITT Recommendation *Plan for telex destination codes*, Rec. F.69.