

RECOMMENDATION ITU-R SNG.771-1<sup>\*,\*\*</sup>**Auxiliary coordination satellite circuits for SNG terminals**

(1992-1993)

The ITU Radiocommunication Assembly,

*considering*

- a) that Satellite News Gathering (SNG) using portable transmitting earth stations is essential for broadcast operations and provides a valuable method of transmission for the rapid acquisition and broadcasting of news events;
- b) that SNG is temporary and occasional and its activation often cannot be determined long in advance;
- c) that SNG operators require the use of auxiliary full duplex coordination circuits between the SNG terminal and the satellite operator and broadcaster's premises;
- d) that SNG terminals are often deployed to remote areas where expeditious access to the public switched telephone network can be difficult or impossible;
- e) that throughout the world, where news events take place, uniform technical and operational standards for communication should be established to ensure prompt activation of the SNG service;
- f) that the technical and operational standards for SNG are defined in other Recommendations ITU-R SNG.770 and ITU-R SNG.722;
- g) that there is a general trend towards the use of digital carriers for the transmission of both data and voice information (see Note 1).

NOTE 1 – Currently most of the SNG systems are using analogue modulation techniques. Until suitable digital communications systems are widely available, analogue modulation systems may be used,

*recommends*

- 1** that SNG earth stations should be equipped to provide two-way satellite communication circuits which must be available prior to, during, and after, the transmission of the vision and associated sound or sound programme signal. These circuits will provide communication between the SNG operator, the satellite operator and the broadcaster;
- 2** that two or more duplex circuits should be provided, whenever possible within the same transponder as the programme vision and associated sound or sound programme signal;
- 3** that these communication circuits should be in compliance with ITU-T Recommendation G.703, i.e. 64 kbit/s;

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\* This Recommendation should be brought to the attention of Radiocommunication Study Group 6.

\*\* Radiocommunication Study Groups 4 and 9 made editorial amendments to this Recommendation in 2001 in accordance with Resolution ITU-R 44 (RA-2000).

4 that the modulation of the communication channel carriers should comply with the specification summarized in Annex 1;

5 that for occasions when these circuits cannot be provided in the same transponder with the programme vision and associated sound or sound programme signal, the alternative arrangements detailed in Annex 2 should be followed.

## ANNEX 1

The modem used for modulation of the 64 kbit/s carriers shall be fully compatible with the current INTELSAT Standard IESS-308.

## ANNEX 2

There will be occasions when the return communications to the SNG terminal cannot be provided in the same transponder as the video. In these circumstances it may be possible to provide the return communications in another transponder in the same frequency band on the same satellite. In this case the return communications should be provided on the appropriate polarization to avoid the need for a dual polarization feed on the SNG terminals.

If it is not possible to provide the communications in the same frequency band as the video signal a number of other solutions are proposed.

### 1 6/4 GHz band

In one such solution, the communication channel could be provided on a 6/4 GHz band transponder with global coverage. One particular scheme currently under investigation is the use of small (circa 0.8 m) micro terminals employing spread-spectrum modulation. This would support a single 64 kbit/s duplex circuit, which may itself include multiple low bit-rate voice duplex circuits.

A second solution to this problem, which has been proposed, is the implementation of a "partial" dual band feed (i.e. 14/12-11 GHz band Tx/Rx, 6/4 GHz band Rx) on the SNG terminal. This solution would augment the normal 14/12-11 GHz band transmit/receive capability of the SNG terminal with a 6/4 GHz band receive only capability, thereby enabling the reception of 6/4 GHz band transmissions. Initial studies in this area indicate that multiple 64 kbit/s carriers could be supported with this approach using existing commercially available digital modem technology.

NOTE 1 – Tx: transmit, Rx: receive.

### 2 Land mobile earth station (LMES)

On some occasions a solution could be provided by using a land mobile earth station operating at 64 kbit/s or an LMES which can support voice grade communication capability.

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