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SUBJECT	Transitory Weak Signal Reflection Procedure for VHF, UHF & Microwave Contacts		
Society	RSGB	Country:	UK
Committee:	C5	Paper number:	CT08_C5_28
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Introduction

An “Aircraft Scatter Operating Procedure” (Paper B20) was introduced by EDR at the IARU Region 1 interim meeting (Vienna 2007). The principle of this paper was approved unanimously by the meeting but it was agreed that the procedure should be rewritten.

This paper however extends the principle of ‘aircraft scatter’ to any form of tropospheric propagation which results in a weak transitory signal.

Background

Terrestrial signals may often be heard on the VHF, UHF or Microwave bands that are weak and suffering from considerable fading.

It will be helpful in these circumstances to be able to resort to an operating procedure that maximises the possibility of a contact.

Aircraft Scatter is the process of reflecting radio waves off the body of an aircraft in flight.

Contacts may be made on any of the VHF, UHF or Microwaves bands with distances up to 800 kilometres or so away.

However the available QSO time is very brief, usually less than one minute and therefore a similar operating procedure is required.

Although the procedure described here is primarily for CW and SSB contacts it may be adapted for digital communications if required.

The Basis of the Procedure

Imagine that two stations can hear each other but signals are very weak and suffering from considerable fading. Somehow you need to be able to drop into a timed period mode to enhance the chance of making a QSO.

But which station starts the first timed period?

This may simply be achieved from the way you are beaming your directional antenna.

So, for example, if you hear a station when you are beaming WEST (or NORTH) and *hopefully* they are beaming EAST (or SOUTH) then both stations can drop into a timed sequence because they will know roughly where the other station is.

Procedure

Scheduled Contact

A calling sequence of 15 seconds is used for each station.

Stations located NORTH or WEST of the other station start the 1st 15-second period.

Stations alternately call each other until signals are heard.

OZ7IS G4ASR ... OZ7IS G4ASR ... BREAK (or K on CW)

When signals are heard insert a conventional tropo report (3 times)

OZ7IS G4ASR 52 52 52 ... OZ7IS G4ASR 52 52 52 ... BREAK (K)

Reply with a confirmation roger report (3 times)

G4ASR OZ7IS R57 R57 R57 ... G4ASR OZ7IS R57 R57 R57 ... BREAK (K)

Confirm with a string of rogers (3 times)

OZ7IS G4ASR Roger Roger Roger ... BREAK (K)

G4ASR OZ7IS Roger Roger Roger ... BREAK (K)

Unscheduled Contact
The procedure for an unscheduled QSO is exactly the same as the scheduled contact.
It may be deduced from your beam-heading which station starts the first 15-second period.

If you are beaming SOUTH or EAST you start the 1st 15-second period of that minute.
(This means you are probably North or West of the other station).

If you are beaming NORTH or WEST you start in the 2nd 15-second period of that minute.
(This means you are probably South or East of the other station).

Valid Contacts
A valid contact is one where each operator has copied both call signs, the report and a confirmation that the other operator has done the same.

This confirmation may either be an "R" preceding the report or a string of three consecutive "rogers" (RRR).

Recommendation
That the procedure is adopted as an aid to weak signal tropospheric and aircraft reflection (or similar) contacts on the VHF, UHF and Microwave bands.