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Re: Establishing Carrier ID's for worldwide uplinking by January 1st, 2012

Carrier ID Forum - Carrier ID Video Specification

Following on from the WBU-ISOG initiative of June 4th, 2008 a second and final specification has been drawn up for all individual Video Encoders and, eventually, Multiplexer systems

Washington, DC, November 18th 2009 – The Satellite Users Interference Reduction Group (SUIRG), through the Carrier ID Forum held at Intelsat HQ, successfully completed the specification for the Carrier ID format for all video transmissions, whether fixed or transportable.

Original Contributors:

Colem Communications	www.colem.co.uk
Link Research	www.linkres.co.uk
Sat Corporation (ISI)	www.sat.com
SiSLive	www.sislive.tv
SUIRG	www.suirg.org

Insertion of Carrier ID Information in the MPEG Stream:

The insertion of carrier ID information in the MPEG stream will assist in the rapid identification of satellite streams which will be of great assistance in troubleshooting satellite interference problems.

The Network information will always contain the manufacturers name and the unique unit serial number and encoders will have the option of having data automatically added into Network Information Tables to provide traceability. Additional information can be added in the MPEG Network Information Table (NIT) by the Uplinker, as requested by the Satellite operator.

WBU-ISOG has endorsed this final specification suggested by the original contributors and encourages broad industry adoption of this non-proprietary practice.

Common Parameter Specification...

1. All fields are fixed length;
2. Network Descriptor Tag 8 bits & Length 8 bits - Default shall = 196 decimal.

Codes available are from 192 to 254 decimal. Note, this is part the DVB specification for the construction of any service information table;

3. All bytes in the Network Descriptor are ASCII and in the range of the standard printable codes...
32 to 126 decimal
20 to 7E hex
4. **Comma** ',' shall be used as the field separator (No trailing Comma ',' at end of descriptor);
5. Padding characters shall use **Underscore** "_" only;
6. Manufacturer/Serial number has been added to allow for future use of a global database;
7. 'Carrier Identifier Format' allows different formats of Identifier (essentially a version number for future proofing). Now defaults to '02' as the final specification constitutes the second version of the format.

Special Considerations...

With reference to the NIT itself the DVB specification allows for this table to be retransmitted between **25ms and 10s** - Ref: ETSI TR101 290 Table Timing Intervals.

Note 1: *From an engineering point-of-view it is considered that, "any type of monitoring equipment should be able to extract the NIT within the valid DVB timing range specified above".*

Note 2: *In general this is usually sent at a rate of around 1 to 2 seconds*

Note 3: *Carrier Identifier Format, Encoder Manufacturer & Encoder Serial Number hard-coded at build!*

Carrier Identifier Format Details...

Carrier Identifier Format	2 character string	Numeric Only (Now '02')
Comma Separator	1 character string	
Encoder Manufacturer	5 character string	(Name of Encoder Manufacturer e.g. VSL__)
Comma Separator	1 character string	
Encoder Serial Number	12 character string	(Electronic Serial Number of Encoder)
Comma Separator	1 character string	
Carrier Identifier	5 character string	(Name of Carrier Company)
Comma Separator	1 character string	
Telephone Number	17 character string	Numeric Only & the following "+", "(" and ")" (Typically – Operator’s MCR/POC Number, etc)
Comma Separator	1 character string	
Longitude	9 character string	('+000.0000' to '+/-180.0000') Numeric Only & the following "+", "-" and "."
Comma Separator	1 character string	
Latitude	8 character string	('+00.0000' to '+/-90.0000') Numeric Only & the following "+", "-" and "."
Comma Separator	1 character string	
User Information	15 character string	(Service Information/Other User Field, etc)

Total Character Count = 80

(Maximum size for Carrier ID in the NIT excluding Descriptor Tag and Length field)

Typical example...

02, VSL__, 0123456789__, SIS__, +44 (0) 1923474069__, +000.0000, +00.0000, USER_INFO_____

Manufacturer & Operator Identifier Details...

From discussion, a common, registered database of Manufacturer and Operator IDs should be created and ratified by all participating Satellite Operators. This should be kept on the global Satellite Operator database to ensure validity of issued codes. This shall include Network Management System (NMS) or Monitoring & Control (M&C) suppliers.

The following table suggests suitable IDs for those Manufacturers and Operators already involved in the video ID initiative where equipment applicable...

MANUFACTURERS		OPERATORS	
Manufacturer	ID	Operator	ID
Vislink	VSL__	SiSLive	SIS__
Integral Systems Inc.	ISI__	British Sky Broadcasting	BSKYB
Holkirk	HOL__	Intelsat	INT__
Tandberg Television	LME__	SES World Skies	SES__
Colem Communications	CLM__	Eutelsat	EUT__
Crystal Computer Corp.	CCC__	CNN	CNN__
Etc...		Etc...	

Document History

Revision History

Revision	Revision Date	Summary of Changes	Author
Draft	08/12/2006	Initial Draft Document	M. Coleman
Final	15/12/2009	Final Specification	M. Coleman
Clarified	19/10/2010	Clarification of Specification	M. Coleman

Document Changes from the Original Draft

Reference	Description of Change
Structure	Specification formalised & sectioned to include Common Parameters, Special Considerations, ID Format and Manufacturer/Operator IDs.
Common Parameters	Use of "Underscore" clarified.
Special Considerations	New section added. Clarification of the retransmission time of the NIT & relevance to companies monitoring & decoding the ID string.
ASCII	All ASCII character formats clarified in both Common Parameters and Format.
Manufacturer ID/Serial No.	Now formally added. Initial IDs listed to be included as part of the Satellite Operator Orbital Database held at the newly formed Space Data Association.
ID Structure	Rearranged. Manufacturer & Serial No. moved to start of string, User field added at the end of string, 80 Character count maximum implemented.
Carrier ID Format	Now defaults to "02" indicating the second version of the ID.
General	Introduction, About SUIRG & The Future sections added for historical reasons.
Descriptor	Clarification of Descriptor to Network Descriptor
Special Considerations	Note 3 added to show what is "hard-coded" at build.

Approvals

This document requires following approvals:

Name	Title
WBU-ISOG	Group

Distribution

This document has been distributed to:

Name	Title
Carrier ID - Video	Working Group
SUIRG	Full Committee
WBU-ISOG	Group