

BASIS / RAVE CobraNet OIDs

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Introduction

This document was created to help describe the construction of QSControl.Net object identifiers (OIDs) that represent BASIS' managed objects and how these OIDs relate to BASIS platform products (the platform includes BASIS-derived RAVE models).

32 Bit OID breakdown

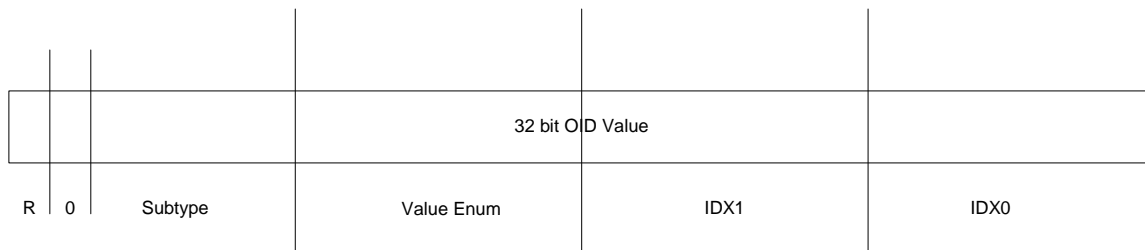
The OID is a signed 32 bit value that uniquely identifies an individual parameter stored in a BASIS or RAVE product. In order to preserve CLR compatibility, the sign bit (upper bit) is reserved and always set to 0. There are two major types of OID values. The first type of OID represents a static parameter type. When present, these parameters are fixed. A BASIS or RAVE product either always has these parameters or never has them, depending upon the model. The type of OID represents objects associated with the dynamic DSP signal flow. These parameters will come and go as dictated by the signal flow design.

CobraNet OID type

This document is concerned with CobraNet OIDs. All CobraNet OIDs represent static parameters whose values are obtained and/or manipulated when configuring, controlling or monitoring the CobraNet interface and its associated audio streams. CobraNet parameters are available on all BASIS models except the 722az and on all BASIS-derived RAVE models.

Static Value OID Construct

The Static Value OID Construct consists of four parts. The first part is the "Subtype" that the parameter belongs to. All CobraNet parameters belong to Subtype "04". The second part is the "Value Enum", which is an arbitrary value that represents a specific type of value in the product, such as the Boot Version or Conductor Priority value. The third and fourth parts of the OID are used for tabular or list indexing into the value. For example, there will be a Tx Bundle Assignment for each of the four available CobraNet transmitters. In this case, the index would identify the exact transmitter that a particular Tx Bundle Assignment value is associated with.



Sample OID values for CobraNet objects

Parameter: Hardware restart
OID: 0x04 01 00 00
Description: Restarts CobraNet via processor hardware reset

Parameter: Tx Bundle Assignment
OID: 0x04 1D 00 02
Description: Assigns bundle value to third transmitter (zero based indexing)

Parameter: Rx Bundle Dropout count
OID: 0x04 28 00 01
Description: Reports the quantity of isochronous cycles that were not processed for a given receiver (due to non-arrivals, dropped packets, late packets etc.)

Parameter: DSP Input Bundle Assignment
OID: 0x04 30 00 09
Description: Assigns one of four CobraNet receivers to the tenth DSP input channel*

Parameter: DSP Input Channel Assignment
OID: 0x04 31 00 09
Description: Assigns one of eight bundle channels to the tenth DSP input channel*

* Some OIDs, such as DSP Input Bundle Assignment and DSP Input Channel Assignment, are used collaboratively. In the example above, the two OIDs are used to “unbundle” a CobraNet delivery (a virtual bundle of audio channels), extract the contents of the bundle (the discrete digital audio channels), and route one of these audio channels to one of 24 inputs on a BASIS or RAVE DSP engine.

Note also that some BASIS and BASIS-derived RAVE models have physical analog or digital audio inputs on their chassis rear panels. Such models will reserve a block of 8 or a block of 16 DSP inputs exclusively for these physical audio inputs. As such, the OID indices available for routing CobraNet channels may be limited to 8 or 16 (rather than all 24 channels supported by the architecture). For example, CobraNet channels may only be routed to DSP input channels 8 through 23 on a RAVE 522aa because the 522aa has 8 analog inputs that reserve the first 8 inputs of the DSP engine (channels 0 through 7).

CobraNet control and monitoring

Routing type: BASIS

Subgroup 0x04 Note: all CobraNet controls are non-snapshotable

Object Name	Value Enum	Devices	Index
Reserved	0x00	ALL	0
Hardware Restart	0x01	BASIS / RAVE	1
Firmware Restart	0x02	BASIS / RAVE	1
System Description	0x03	BASIS / RAVE	1
Firmware Version	0x04	BASIS / RAVE	1
Firmware Manuf. ID	0x05	BASIS / RAVE	1
Boot Version	0x06	BASIS / RAVE	1
SNMP Mod. Permission	0x07	BASIS / RAVE	1
CurrentIPAddress	0x08	BASIS / RAVE	1
StaticIPAddress	0x09	BASIS / RAVE	1
System Up Time	0x0A	BASIS / RAVE	1
Flash Persistence	0x0B	BASIS / RAVE	1
Store Variables	0x0C	BASIS / RAVE	1
Flash Size	0x0D	BASIS / RAVE	1
Flash Sector Size	0x0E	BASIS / RAVE	1
Last Error	0x0F	BASIS / RAVE	1
Conductor Priority	0x10	BASIS / RAVE	1
Conductor Cycle Rate	0x11	BASIS / RAVE	1
Conductor Status	0x12	BASIS / RAVE	1

Sync. Cond. Clock Mode	0x13	BASIS / RAVE	1 (not supported)
Total Tx Channels	0x14	BASIS / RAVE	1
Total Rx Channels	0x15	BASIS / RAVE	1
Total Allowed Channels	0x16	BASIS / RAVE	1
Local Loopback Input	0x17	BASIS / RAVE	0
Local Loopback Output	0x18	BASIS / RAVE	0
Enable/Disable Tx Bundle	0x19	BASIS / RAVE	0
Tx Bundle Dropout Count	0x1A	BASIS / RAVE	4
Tx Bundle Position	0x1B	BASIS / RAVE	4
Tx Bundle Receivers	0x1C	BASIS / RAVE	4
Tx Bundle Assignment	0x1D	BASIS / RAVE	4
Tx Bundle Trans. Priority	0x1E	BASIS / RAVE	4
Tx Bundle Assign. Pr.	0x1F	BASIS / RAVE	4
Tx Bundle Channel Count	0x20	BASIS / RAVE	4
Tx Bundle Buddy Exclude	0x21	BASIS / RAVE	4 (not supported)
Tx Bundle Unicast Mode	0x22	BASIS / RAVE	4
Tx Bundle Max. Unicast Receivers	0x23	BASIS / RAVE	4
Tx Channel Assignment	0x24	BASIS / RAVE	4 x 8
Tx Channel Format	0x25	BASIS / RAVE	4 x 8
Enable/Disable Rx Bundle	0x26	BASIS / RAVE	0
Rx Bundle Reception Status	0x27	BASIS / RAVE	4
Rx Bundle Dropout count	0x28	BASIS / RAVE	4

Rx Bundle Delay	0x29	BASIS / RAVE	4
Rx Bundle Min. Delay	0x2A	BASIS / RAVE	4
Rx Bundle Assignment	0x2B	BASIS / RAVE	4
Rx Bundle Prv. Src. MAC	0x2C	BASIS / RAVE	4
Rx Bundle Priority	0x2D	BASIS / RAVE	4
Rx Bundle Buddy Exclude	0x2E	BASIS / RAVE	4 (not support)
Rx Channel Receive Resolution	0x2F	BASIS / RAVE	4 x 8
DSP Input Bundle Assignment	0x30	BASIS / RAVE	24 Basis 922 & 914, RAVE 520 & 522: indices 8-23 Basis 902 & 904: Indices 0 - 23
DSP Input Channel Assignment	0x31	BASIS / RAVE	24 Basis 922 & 914, RAVE 520 & 522: indices 8-23 Basis 902 & 904: Indices 0 - 23
DSP Input Format	0x32	BASIS / RAVE	24 Basis 922 & 914, RAVE 520 & 522: indices 8-23 Basis 902 & 904: Indices 0 - 23
Latency Control(Config) (NS)	0x34	BASIS / RAVE	1
Latency Status	0x35	BASIS / RAVE	1
Rx Channel Receive Latency	0x36	BASIS / RAVE	4 x 8
Rx Channel Receive	0x37	BASIS / RAVE	4 x 8

Sample Rate			
Rx Channel Receive Valid Status	0x38	BASIS / RAVE	4 x 8
Tx Bundle Transmit Status	0x39	BASIS / RAVE	4

Revision Log (CobraNet-only version)

Version: based on 3.0.9

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Description:

1. Abridged original document for external customers requiring CobraNet OIDs



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