Rev 2

Summary

This procedure will allow Q-Sys to integrate with an existing CobraNet system by providing instructions on setting up CobraNet Bundle Assignments for the Q-Sys CCN32 CobraNet Card.

NOTE: If the CCN32 Card is used in a <u>Q-Sys Core</u>, it can only accept a <u>maximum of 32 Audio Channels</u> per card. Multiple CCN32 cards can be used in an "Integrated Core" model to expand the CobraNet channel count. Also if a CCN32 card is used in a <u>Q-Sys I/O Frame</u>, a <u>maximum of 16 Audio Channels</u> can be used. Only one CCN32 card can be used in an I/O Frame when "maximizing" the CobraNet channel count, no other cards can be used on the same I/O Frame at that point.

The example provided is based on a system that is using all eight audio channels per assigned bundle. There are situations where a CobraNet device may only transmit 2 or 4 audio channels per bundle. It is possible to setup the CCN32 to receive in this configuration. The last section titled "Additional Notes" will discuss SubMap routing to maximize the CobraNet Audio channel count getting in to the Core or I/O Frame.

Requirements

This procedure requires the use of a third-party software called "CobraNet Discovery" or "Disco" to be installed. If you are unfamiliar with the software or do not have the software installed, instructions on where to find and use the software are included within this document.

This procedure will require a basic knowledge on how to change your computer's wired network adaptor settings as well as require that you have administrative rights to adjust your Firewall and Antivirus Protection software.

This procedure will require that a CCN32 is installed in a Q-Sys Core or Q-Sys I/O Frame and that the Core or Frame must be powered on. Also the CCN32 must be wired to a network switch or must be connected directly to the local computer's network interface adaptor. A network cross-over cable may be required for a direct connection.

Procedure

If you do not have CobraNet Discovery or "Disco" loaded on your computer, the software can be found at the following URL as a FREE download:

http://www.cobranet.info/downloads/disco

Download Disco version 4.0.5 and save to your local computer. Once the download is complete, EXTRACT the contents of the zipped file by right-clicking on the compressed folder and select "Extract All". Once the installer has been extracted, double click the appropriate installer for your computer.

Windows 7 64 bit = CNDisco_v405_x64

Windows 7 32 bit / Vista / XP = CNDisco_v405_x32

Once the software is installed, connect your computer to the CobraNet network.

Go ahead and launch Disco....

CobraNet Bundle Assignment Procedure Using CobraNet Discovery

dB CobraNettim) Discovery	Cobrahett	m) Discovery	
CobraNet Edit View Tools Help	Cobratiet Gr	Sit View Tools Help	
S 3P Address MAC Address	S 32 Addres	s MAC Address	
	0000 🖸	006026020138	
	0.0.6	006026020148	
	S 10.10.5.1	07 006026020298	
	9005	006026020319	
	9.0.04	00602b020ba8	
	9.011	00602b020e3a	
	S 10.10.5.1	21. 00662b020e44	
	6006 🖸	006026020e49	
	9002	005026051824	
	9001	00502605e35d	
	9003	00602b05e46d	
	80.08	006025068085	
Status Devices 0 Active: 0	Dead: 0 Status	Devices: 12	Active: 12 Dead: 0
Lippopulated Discovery Wir	adow	Populated Discover	Window
Unpopulated Discovery wir	luow	Fupulated Discover	y window

Once open, the CobraNet devices on the network may start to populate the "Discovery Window". If they DO NOT or the Q-Sys device that you need to see does not populate then you will need to perform the following steps.

If the CobraNet hardware being used DOES NOT have an IP address assigned to the CobraNet device or if you are not sure if there is an IP address, you will want to setup up Disco to function as a temporary DHCP server to issue IP addresses out to each device. Without an IP address, Disco will not be able to communicate with the CobraNet device.

NOTE: When setting up the CCN32 Card for Q-Sys, the Q-LAN A & B network connections are completely different network interface connections hence the IP Addresses assigned to the Core or I/O Frame for those Network Adaptors do not apply to the CobraNet Card.

To change the network settings for Disco, you will want to navigate to the "Tools" drop-down menu within Disco and select "Options" to open the Options window.

2] Broadcom Net	Xtreme	Sigab	it Ether	net	
Address Range					
Start:	9.	0	. 0	. 1	Enable Auto Assignment
End:	9.	0	. 0	. 199	Default
atabase Location	n				
:\Cirrus Logic\Co	braNet [isco	very\firm	nware	
					Default Browse

Now select the appropriate Network Adaptor that is being used by the local computer to communicate with the CobraNet hardware.

Rev 2CobraNet Bundle Assignment Procedure Using CobraNet Discovery

letwork Adapter							
2] Broadcom Ne	tXtreme	Sigab	it Eti	hern	et		₽
P Address Range							
Start:	9.	0		0		1	C Enable Auto Assignment
End:	9.	0	÷	0		199	Default
Database Locatio	n						
C:\Cirrus Logic\Co	obraNet (Disco	very	firm	war	e	
							Default
							beidan

Options Window - Network Adaptor

With the appropriate network adaptor identified, now you will want to establish an IP Address Range for Disco's DHCP server. You can use the default Disco address range OR you can change the IP Address Range so that it matches the IP Subnet of the selected network adaptor on the local computer.

2] Broadcom Net	tXtrem	e Gi	gab	it Et	hern	et		
P Address Range								
Start:	9		0		0		1	C Enable Auto Assignment
End	9	÷	0	×	0		199	Default
Database Locatio	n							
:\Cirrus Logic\Co	obraNe	et Di	scov	/ery	\firm	war	e	
								Default Browse
								and the second

Please note that if you decide to use the "Default" IP Address Range within Disco, you will most likely need to change the IP Configuration of the computer so that it will live in the same subnet range as the Disco IP Address Range. The default range is a 9.0.0.1 to 9.0.0.199 with an 8 bit Subnet Mask so your local computer's IP configuration will need to be changed to sit within that range.

On the contrary if you decide to enter in a custom IP Address Range in Disco to match the Subnet of the local computer, you must first remove the checkmark from the "Enable Auto Assignment" box. Once that is done, you can now make the appropriate changes.

Rev 2 CobraNet Bundle Assignment Procedure Using CobraNet Discovery

Broadcom Net	tXtrem	e G	igab	it Et	hern	et				
Address Range										
Start:	9	•	0	4	0			Enable A	uto Assi	gnment
End:	9		0		0		199	Default	٦.	

Options Window - Disable Auto Assignment

Now you can enter the appropriate "Start" and "End" IP Address to establish the Range.

letwor <mark>k</mark> Adapte	r				
2] Broadcom Ne	etXtreme Giga	bit Etł	nernet		
IP Address Rang	e				
Start:	192 . 16	в.	0.	1	Enable Auto Assignment
🖒 End:	192 . 16	в.	ο.	199	Default
Database Locatio	on				
C:\Cirrus Logic\C	obraNet Disco	overy\	firmwa	ire	
					Default Browse
					OK Can

Options Window - Enter in IP Address Range

Once the changes have been made, you will need to reapply the checkmark back to "Enable Auto Assignment". Now you can click "OK" to close out of this window.

Rev 2 CobraNet Bundle Assignment Procedure Using CobraNet Discovery

] Broadcom N	etXtreme Gigabit Ethernet
Address Rang	e
Start:	192 . 168 . 0 🖃 Enable Auto Assignment
End:	192 . 168 . 0 . 199 Default

Options Window - Enable IP Address Range Change

The CobraNet Hardware may start to populate the Discovery Window at this point.

E CobraNetitm) Discovery		IE CobraNet(tm) Discovery	
CobraNet Edit View Tools Help		CobraNet Edit View Tools Help	
S IP Address MAC Address		S IP Address MAC Address	
		Q 0.0.00 006026020138	
		Q 9.0.0.6 00602b020148	
		10.10.5.107 006026020298	
		S 9.0.0.5 006026020319	
		S 9.0.0.4 0060260206a8	
		9.0.0.11 00602b020e3a	
		Q 10.10.5.121 0066726020#44	
		S 9.0.0.9 00602b020e49	
		9.0.0.2 00602b051834	
		9.0.0.1 00602b05e35d	
		9.0.0.3 00602b05e46d	
		9.0.0.8 00602b06a085	
Status Devices 0	Active: 0 Dead: 0	Status	Devices: 12 Active: 12 Dead: 0

Unpopulated Discovery Window

Populated Discovery Window

If the CobraNet hardware still does not appear in Disco, you will want to make sure that you temporarily disable all anti-virus software, firewall, and/or network protection as this may be blocking communication with the CobraNet hardware.

At this point all the CobraNet devices will start to populate the Discovery Window; listing each IP Address, MAC Address, as well as the Status for each device.



Populated Discovery Window

In order to make Disco more useful, there are additional columns of information that you can add that will help with identifying CobraNet hardware as well as determining the number of Transmit (TX) and Receive (RX) bundle are being used for each device. Here is a procedure for adding those functions.

From the "Discovery" window, navigate to the "View" drop-down menu and select "Column Chooser"

	147 - 1 - 1 - 1
Available	watch List
sysUpTime[1.3.6.1.2.1.1.3.0]	
sysContact[1.3.6.1.2.1.1.4.0]	
sysLocation[1.3.6.1.2.1.1.6.0] =	
ifInErrors[1.3.6.1.2.1.2.2.1.14.1]	<u>>></u>
errorCode[1.3.6.1.4.1.2680.1.1.3.3.0]	
condPriority[1.3.6.1.4.1.2680.1.1.4.2.0]	
condStatus[1.3.6.1.4.1.2680.1.1.4.4.0]	
audioAllowedChannels[1.3.6.1.4.1.2680.]	
audioTxChannels[1.3.6.1.4.1.2680.1.1.5.7	
audioRxChannels[1.3.6.1.4.1.2680.1.1.5.8	
errorCount[1.3.6.1.4.1.2680.1.1.3.4.0]	
UKDescription[136121110]	

Column Chooser - Default

To ADD or REMOVE Columns, first select the column feature and then use the "double arrow" buttons to add or remove feature to/from the "Watch List"

Rev 2CobraNet Bundle Assignment Procedure Using CobraNet Discovery



We recommend using the listed columns. Once the list is populated, click "OK" to close the window.

IP Address	MAC Address	errorCount	sysDescription	sysName	Rx1	Rx2	Rx3	Rx4	Tx1	Tx2	Tx3	Tx4
0.0.0.0	006026020138				11	11	11	11	11	11	11	11
9.0.0.6	006026020148	0	QSC RAVE 160s CobraNet version 2.9.16(.1)	RAVE 160s I.D	1/1/0	0/0/0	SNMP: Variabl	SNMP: Variabl	0/0/0	0/0/0	SNMP: Variabl	SI
10.10.5.107	006026020298	request ti	request timed out	request timed	re							
9.0.0.5	006026020319	0	QSC RAVE 188s CobraNet version 2.9.16(.1)	RAVE 188s I.D	1/1/0	0/0/0	SNMP: Variabl	SNMP: Variabl	0/0/0	0/0/0	SNMP: Variabl	S
9.0.0.2	00602b02056a	0	Cirrus Logic EV-2/CM-2 (CM18102) CobraNet	CM18102	0/0/0	0/0/0	500/0/0	501/0/0	300/0/0	301/0/0	0/0/0	0
9.0.0.4	00602b020ba8	0	QSC RAVE 188s CobraNet version 2.9.16(.1)	RAVE 188s I.D	1/1/0	0/0/0	SNMP: Variabl	SNMP: Variabl	0/0/0	0/0/0	SNMP: Variabl	S
9.0.0.1	00602b020cbf	0	QSC Q-Sys CCN32 CobraNet version 2.9.16.:	Q-Sys CCN32	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0
9.0.0.11	00602b020e3a	0	QSC Basis 922az CobraNet version 2.9.16(.19	Basis 922az	1/1/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0
10.10.5.121	00602b020e44	request ti	request timed out	request timed	n							
9.0.0.9	00602b020e49	0	QSC Basis 922az CobraNet version 2.9.16(.19	Basis 922az	1/1/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0
9.0.0.7	00602b02980a	0	QSC Basis 922uz CobraNet version 2.9.16(.19	Basis 922uz	1/1/0	0/0/0	0/0/0	0/0/0	3/1/0	0/0/0	0/0/0	0
9.0.0.2	00602b051824				11	11	11	11	11	11	11	6
192.168.0	00602b05e2e4	request ti	request timed out	request timed	r							

CobraNet Discovery Window - Additional Columns Added

Now we can go ahead and start editing the bundle assignments. Double-click on the MAC address that is described as QSC Q-Sys CCN32 CobraNet Version. This will open up the CobraNet Configuration window for that device.

P Address	Condu	ctor 📃				
9.0.0.1			Ad	lvanced	Report	Configure
Bundle	Туре	Number	Status	1		
0	Tx	1	0			
0	Tx	2	0			
0	Tx	3	0			
0	Tx	4	0			
0	Tx	5	0			
0	Tx	6	0			
0	Tx	7	0			
0	Tx	8	0			

CobraNet Configuration - TX Default

This will list all the available Transmit or TX bundles for that device and their associated bundle numbers. The default bundle assignment of the CCN32 card is 0 or Null. To change that bundle assignment, select the TX bundle that you would like to change. Once the bundle is selected, click on the "Configure" button located at the top right corner of the window.

l	Bundle 0		
h.	SubMap	SubFormat	
L	1	20	•
2	2	20	Ψ.
3	3	20	*
1	4	20	Ŧ
5	5	20	*
5	6	20	Ŧ
7	7	20	*
3	8	20	Ŧ
	Clear All	All Same 🔽]
	SubCount	8	•
	UniCastMode	Never Multicast	•
	MaxUniCast	1	•

Transmitter 1 Configuration - Default

This will open up a new window exposing all the audio channels within that bundle assignment. At the top of the window, enter in the bundle ID that you would like to use.

Note: For Transmitting (TX) Bundles 1-255, they are considered Multicast which are transmitted by a single CobraNet interface and received by any number of interfaces. For Transmitting (TX) Bundles 256 - 65279, they are considered unicast which are transmitted by a single CobraNet interface and may be received at a single interface.

n.	SubMap	SubFormat	
	1	20	•
	2	20	*
	3	20	Ŧ
	4	20	Ŧ
	5	20	
	6	20	Ŧ
	7	20	Ŧ
	8	20	Ŧ
	Clear All	All Same	/
	SubCount UniCastMode MaxUniCast	8 Never Multicast	•

After a bundle has been assigned an ID number, you will need to click the "Apply" button and then click the "OK" button. Just repeat this step for every TX Bundle that is part of the system.

IP Address	Condu	ctor 📃				
9.0.0.1			Ad	lvanced	Report	Configure
Bundle	Туре	Number	Status			
1015	Tx	1	1			5
0	Tx	2	0			
0	Tx	3	0			
0	Tx	4	0			
0	Tx	5	0			
0	Tx	6	0			
0	Tx	7	0			
0	Tx	8	0			-

CobraNet Configuration – TX Bundle Edited

For Assigning the RX bundles, just scroll down the CobraNet Configuration window until you expose the RX bundles.

IP Address	Condu	ctor 📃			
9.0.0.1			Ad	lvanced Repo	ort
Bundle	Туре	Number	Status		
0	Tx	14	0		
0	Tx	15	0		
0	Tx	16	0		
0	Rx	1	0		8
0	Rx	2	0		
0	Rx	3	0		
0	Rx	4	0		
0	Rx	5	0		

CobraNet Configuration - RX Default

This will list all the available Receive or RX bundles for that device and their associated bundle numbers. Again the default bundle assignment of the CCN32 card is 0 or Null. To change that bundle assignment, select the RX bundle that you would like to change. Once the bundle is selected, click on the "Configure" button located at the top right corner of the window.

	Bundle 0	
Ch.	SubMap	SubFormat
1	33	Not Receiving
2	34	Not Receiving
3	35	Not Receiving
4	36	Not Receiving
5	37	Not Receiving
6	38	Not Receiving
7	39	Not Receiving
8	40	Not Receiving

This will open up a new window exposing all the audio channels within that bundle assignment. At the top of the window, enter in the bundle ID that you would like to use.

	Bundle 100	01
Ch.	SubMap	SubFormat
1	33	48 kHz, 20, 5 1/3 mS
2	34	48 kHz, 20, 5 1/3 mS
3	35	48 kHz, 20, 5 1/3 mS
4	36	48 kHz, 20, 5 1/3 mS
5	37	48 kHz, 20, 5 1/3 mS
6	38	48 kHz, 20, 5 1/3 mS
7	39	48 kHz, 20, 5 1/3 mS
8	40	48 kHz, 20, 5 1/3 mS

Receiver 1 Configuration - Edited

After the Receiver has been assigned a Bundle number, you will need to click the "Apply" button and then click the "OK" button. Just repeat this step for every RX Bundle that is part of the system that will be sent to the Core or I/O Frame.

For Receiving (RX) Bundles, make sure the RX bundle IDs match the appropriate TX bundle number as this will dramatically affect your audio routing. Without a match, no audio will be transported through CobraNet. Once the RX bundle has been assigned to a legit TX bundle and that transmit device is online, you will then see the stream's Sample Rate and Bit Depth as well as a GREEN box illuminated next to each audio channel within that particular bundle. This will give you the indication that a connection has been established between TX and RX device AND the number of audio channels being sent from the CobraNet TX to CobraNet RX.

Rev 2 CobraNet Bundle Assignment Procedure Using CobraNet Discovery

If the RX Bundle has been assigned to a legit TX bundle AND you see the stream's Sample Rate and Bit Depth as well as a <u>RED</u> box illuminated next to each audio channel within that particular bundle, this would indicate that there is a hardware latency mismatch between the TX hardware and RX hardware using that Bundle ID. This could result in an accumulation of errors reported within CobraNet Discovery for both the TX and RX Device.

Receiver 1 Configuration – Latency Mismatch (Red Boxes)

To resolve this latency mismatch you will first want to decide which latency setting is most appropriate for the system that you are setting up. The Q-Sys default is 48kHz at 5 1/3 mS (Milliseconds). A list of the available latency options as well as the Pro's and Con's for each are available later on in this document under the topic "Latency Settings".

To make the change to the Latency Setting you will need to navigate back to the CobraNet Discovery window and select the appropriate device you would like to edit. For this example I will edit the Q-Sys CCN32 to meet the latency of a third-party device.

MAC Address	errorCount	sysDescription	sysName	Rx1	Rx2	Rx3	Rx4	Tx1	Tx2	Tx3	Tx4
006026020138			-)	11	11	11	11	11	11	11	11
006026020148	0	QSC RAVE 160s CobraNet version 2.9.16(.1)	RAVE 160s I.D	1/1/0	0/0/0	SNMP: Variabl	SNMP: Variabl	0/0/0	0/0/0	SNMP: Variabl	SN
006026020298	request ti	request timed out	request timed	request timed	request timed	request timed	request timed	request timed	request timed	request timed	re
006026020319	0	QSC RAVE 188s CobraNet version 2.9.16(.1)	RAVE 188s I.D	1/1/0	0/0/0	SNMP: Variabl	SNMP: Variabl	0/0/0	0/0/0	SNMP: Variabl	SM
00602b02056a	0	Cirrus Logic EV-2/CM-2 (CM18102) CobraNet	CM18102	0/0/0	0/0/0	500/0/0	501/0/0	300/0/0	301/0/0	0/0/0	0/
00602b020ba8	0	QSC RAVE 188s CobraNet version 2.9.16(.1)	RAVE 188s I.D	1/1/0	0/0/0	SNMP: Variabl	SNMP: Variabl	0/0/0	0/0/0	SNMP: Variabl	S
00602b020cbf	0	QSC Q-Sys CCN32 CobraNet version 2.9.16.:	Q-Sys CCN32	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0
00602b020e3a	0	QSC Basis 922az CobraNet version 2.9.16(.19	Basis 922az	1/1/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0
00602b020e44	request ti	request timed out	request timed	request timed	request timed	request timed	request timed	request timed	request timed	request timed	n
00602b020e49	0	QSC Basis 922az CobraNet version 2.9.16(.19	Basis 922az	1/1/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0
00602b02980a	0	QSC Basis 922uz CobraNet version 2.9.16(.19	Basis 922uz	1/1/0	0/0/0	0/0/0	0/0/0	3/1/0	0/0/0	0/0/0	C
006026051824				11	11	11	11	11	11	11	1
00602b05e2e4	request ti	request timed out	request timed	request timed	request timed	request timed	request timed	request timed	request timed	request timed	r
000020052264	request tim	request times out	request timedia	request timedin	request timed	request timed	request timed	request timedia	request timedia	request timed.	
	AAC Address 00602b020138 00602b020138 00602b020298 00602b02039 00602b02056 00602b020b3 00602b020cbf 00602b020cbf 00602b020cbf 00602b020c44 00602b020e49 00602b02800 00602b02800	AAC Address errorCount 00602b020138 0 00602b020148 0 00602b020148 0 00602b020298 request ti 00602b0202ba8 0 00602b0202ba8 0 00602b0202b4 0 00602b0202b4 0 00602b0202b44 request ti 00602b0202b49 0 00602b0202b44 request ti 00602b0202b45 0 00602b0202b44 request ti 00602b0202b42 0 00602b0202b44 request ti 00602b0202b44 request ti	AAC Address errorCount sysDescription 00002b020138 0 QSC RAVE 160s CobraNet version 2.9.16(.1) 00002b020149 0 QSC RAVE 180s CobraNet version 2.9.16(.1) 00002b02019 0 QSC RAVE 188s CobraNet version 2.9.16(.1) 00002b02019 0 QSC RAVE 188s CobraNet version 2.9.16(.1) 00002b020b8 0 QSC RAVE 188s CobraNet version 2.9.16(.1) 00002b020b4 0 QSC QSC CobraNet version 2.9.16(.1) 00002b020b4 0 QSC RAVE 188s CobraNet version 2.9.16(.1) 00002b020b4 0 QSC Raves CobraNet version 2.9.16(.1) 00002b020b4 request time 0 00002b020b4 0 QSC Raves CobraNet version 2.9.16(.19 00002b020b4 0 QSC Basis 922as CobraNet version 2.9.16(.19 00002b020b4 0 QSC Basis 922as CobraNet version 2.9.16(.19 00002b020b204 0 QSC Basis 922as CobraNet version 2.9.16(.19 00002b05124 request time request timed out	AAC Address errorCount sysDescription sysName 00002b020138 0 QSC RAVE 160s CobraNet version 2.9.16(.1) RAVE 160s ID 00002b020148 0 QSC RAVE 180s CobraNet version 2.9.16(.1) RAVE 160s ID 00002b020199 0 QSC RAVE 188s CobraNet version 2.9.16(.1) RAVE 188s ID 00002b020198 0 QSC RAVE 188s CobraNet version 2.9.16(.1) RAVE 188s ID 00002b020b08 0 QSC QSC QSC CobraNet version 2.9.16(.1) RAVE 188s ID 00002b020b10 0 QSC QSC CobraNet version 2.9.16(.1) RAVE 188s ID 00002b020b24 0 QSC Basis 922ar CobraNet version 2.9.16(.1) Basis 922ar 00002b020b24 request timed out request timed request timed 00002b020b24 QSC Basis 922ar CobraNet version 2.9.16(.1) Basis 922ar 00002b020b204 QSC Basis 922ar CobraNet version 2.9.16(.1) Basis 922ar 00002b020b204 QSC Basis 922ar CobraNet version 2.9.16(.1) Basis 922ar 00002b05124 request timed request timed request timed 000002b052a4 request timed	AAC Address errorCount sysDescription sysName Rx1 00002b020138 0 QSC RAVE 160s CobraNet version 2.9.16(.1) RAVE 160s I.D 1/1/0 00002b020148 0 QSC RAVE 180s CobraNet version 2.9.16(.1) RAVE 160s I.D 1/1/0 00002b020139 0 QSC RAVE 188s CobraNet version 2.9.16(.1) RAVE 188s I.D 1/1/0 00002b020149 0 QSC RAVE 188s CobraNet version 2.9.16(.1) RAVE 188s I.D 1/1/0 00002b0202b8 0 QSC QSC QSC CobraNet version 2.9.16(.1) RAVE 188s I.D 1/1/0 00002b020b16 0 QSC QSC QSC CobraNet version 2.9.16(.1) RAVE 188s I.D 1/1/0 00002b020b244 request time dout request timed request timed request timed 00002b020b244 request timed request timed request timed request timed 00002b020b2044 QSC Basis 922az CobraNet version 2.9.16(.19 Basis 922az 1/1/0 00002b020b2044 QSC Basis 922az CobraNet version 2.9.16(.19 Basis 922az 1/1/0 000002b020b2044 QSC Basis 922az CobraNet	AAC Address errorCount sysDescription sysName Rv1 Rv2 00002b020138 /// /// /// /// /// /// /// /// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0// 0//	AAC Address errorCount pspDescription pspName Rx1 Rv2 Rv3 00002b020138 /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// Radds202013 0 QSC RAVE 188 CobraNet version 2.9.16(1) RAVE 188 LD 1/1/0 0/0/0 SMMP: VariabL 00002020204 0 QSC QSC QSC QSC QSC CobraNet version 2.9.16(1) RaVE 188 LD 1/1/0 0/0/0 SMMP: VariabL 0/0/0 0/0/0 0/0/0 0/0/0 0/0/0 0/0/0 0/0/0 0/0/0 0/0/0 0/0/0 0/0/0 0/0/0 <td< td=""><td>AAC Address errorCount sysDescription sysName Rx1 Rx2 Rx3 Rx4 000602b020135 /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// //// //// //// ///// //// ////<</td><td>AAC Address errorCount sysDescription pysName Rv1 Rv2 Rv3 Rv4 Tv1 000502b020135 /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// //// //// /// /// ///</td><td>AAC Address errorCount sysDescription sysName Rx1 Rx2 Rx3 Rx4 Tx1 Ty2 00002b020138 /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// /// 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CobraNet Discovery Window – Select device to edit Latency

Once the device is selected, click on the advanced tab as indicated below.

IP Address	Condu	ctor 📃				
9.0.0.1			Ad	lvanced	Report	Configure
Bundle	Туре	Number	Status			
0	Tx	14	0			
0	Tx	15	0			
0	Tx	16	0			
1001	Rx	1	1			
0	Rx	2	0			-
0	Rx	3	0			
0	Rx	4	0			
0	Rx	5	0			

CobraNet Configuration - RX Bundle Edited

This will open the "Advanced Configuration" window. From within this window the latency setting can be found next to the "modeRate Control". Click on the down-arrow to expose the clock speed and network latency options. Just simply select the option that is best for your application. Now click "Apply" to lock in the selection and then "OK" to close out the window.

Persistence	
Name	Q-Sys CCN32
Location	Venue X
Contact	QSC Technical Service
Conductor Priority	64
Serial Format	0x0
Serial Baud	19200
Serial PPeriod	2560
Serial RxMAC	01:60:28:FD:00:00
SerialTxMAC	01:60:28:FD:00:00
modeRate Control	48 kHz, 5 1/3 mS
Proc Mode	N.A.
	N.A.
TagEnable	
TagEnable HMI Mode	N.A.
TagEnable HMI Mode FreeCycles	N.A. 65.4%

Advanced Configuration - modeRate Control Selection

Once ALL the bundles that are required for the design have been indentified and assigned AND Latency settings match between the TX and RX devices, you will then need to click on the "Advanced" button within the CobraNet Configuration window. To configure the "Persistence" selection.

IP Address	Condu	ctor 🗌				
9.0.0.1				Advanced	Report	Configure
Bundle	Туре	Number	Statu	s		3
0	Tx	14	0			
0	Tx	15	0			
0	Tx	16	0			
1001	Rx	1	1			
0	Rx	2	0			L.
0	Rx	3	0			
0	Rx	4	0			
0	Rx	5	0			-

CobraNet Configuration - RX Bundle Edited

The "Persistence" selection allows the CNCC32 card to retain the CobraNet configuration no matter the state of the Q-Sys Core.

NOTE: If Persistence IS NOT enabled, your bundle assignments will be reset back to 0 or NULL the next time a Q-Sys design is saved back to the Core OR if the Core's power is shut off. At this point you will have to reassign ALL bundle IDs.

Persistence	
Name	Q-Sys CCN32
Location	Venue X
Contact	QSC Technical Services
Conductor Priority	64
Serial Format	0x0
Serial Baud	19200
Serial PPeriod	2560
Serial RxMAC	01:60:2B:FD:00:00
SerialTxMAC	01:60:28:FD:00:00
modeRate Control	48 kHz, 5 1/3 mS
Proc Mode	N.A.
TagEnable	N.A.
HMI Mode	N.A.
FreeCycles	65.4%
NetMask	N.A.

Advanced Configuration – Persistence Enabled

Make sure that Persistence located at the top of the Advanced Configuration window is enabled. This is done by adding a check-mark in the box located to the right. After enabling Persistence, click the "Apply" button and then click the "OK" button to close out of that window. This action will ensure that your bundle IDs will remain in the Q-Sys design.

Siver Luit	new roots neg		A LON - COMPANY AND A LONG AND A L	SWADA CORP. C		-						
IP Address	MAC Address	errorCount	sysDescription	sysName	Rx1	Rx2	Rx3	Rx4	Ixi	1x2	1x3	1x4
0.0.0.0	006026020138				11	11	11	11	11	11	11	11
9.0.0.6	006026020148	0	QSC RAVE 160s CobraNet version 2.9.16(.1)	RAVE 160s I.D	1/1/0	0/0/0	SNMP: Variabl	SNMP: Variabl	0/0/0	0/0/0	SNMP: Variabl	SN
10.10.5.107	006026020298	request ti	request timed out	request timed	rea							
9.0.0.5	006026020319	0	QSC RAVE 188s CobraNet version 2.9.16(.1)	RAVE 188s I.D	1/1/0	0/0/0	SNMP: Variabl	SNMP: Variabl	0/0/0	0/0/0	SNMP: Variabl	SN
9.0.0.2	00602b02056a	0	Cirrus Logic EV-2/CM-2 (CM18102) CobraNet	CM18102	0/0/0	0/0/0	500/0/0	501/0/0	300/0/0	301/0/0	0/0/0	0/0
9.0.0.4	00602b020ba8	0	QSC RAVE 188s CobraNet version 2.9.16(.1)	RAVE 188s I.D	1/1/0	0/0/0	SNMP: Variabl	SNMP: Variabl	0/0/0	0/0/0	SNMP: Variabl	SN
9.0.0.1	00602b020cbf	0	QSC Q-Sys CCN32 CobraNet version 2.9.16.:	Q-Sys CCN32	1001/1/0	1002/1/0	1003/1/0	1004/1/0	1015/1/0	0/0/0	0/0/0	0/1
9.0.0.11	00602b020e3a	0	QSC Basis 922az CobraNet version 2.9.16(.19	Basis 922az	1/1/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/
10.10.5.121	00602b020e44	request ti	request timed out	request timed	re							
9.0.0.9	00602b020e49	0	QSC Basis 922az CobraNet version 2.9.16(.19	Basis 922az	1/1/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/
9.0.0.7	00602b02980a	0	QSC Basis 922uz CobraNet version 2.9.16(.19	Basis 922uz	1/1/0	0/0/0	0/0/0	0/0/0	3/1/0	0/0/0	0/0/0	0/
9.0.0.2	006026051824				11	11	11	11	11	11	11	1
192.168.0	00602b05e2e4	request ti	request timed out	request timed	re							
							2/2/1					

In the example "Discovery Window" shown above, the Q-Sys CCN32 card has been setup to receive four "unicast" bundles containing eight channels of audio on the first four CobraNet receivers (Rx1, Rx2, Rx3, and Rx4) for a total channel count in to Q-Sys of 32 audio channels via CobraNet. Also, the CCN32 card has been setup to transmit 8 audio channels on a single "unicast" bundle out the first transmitter (Tx1).

SubMap Routing Table

Rev 2

There are situations where a single CobraNet device or multiple CobraNet devices are setup to transmit less than 8 audio channels or the device(s) are just unable to send 8 audio channels per CobraNet bundle to a Q-Sys Core or I/O Frame. In this situation you may be required to change the CobraNet SubMap on the CobraNet Receiver so that you can maximize the channel count getting in to the Q-Sys Core or I/O Frame.

NOTE: By default, SubMap 33 will ALWAYS be routed to the first channel of the CobraNet Input Block within Q-Sys Designer. This will ALWAYS be the starting point for changing the SubMap.

To demonstrate, I have setup a hypothetical example using 8 third-party devices only capable of transmitting 4 audio channels per CobraNet bundle. So in order to get all 32 audio channels in to the Core, the SubMap on the 8 inbound bundles being received by the Core will have to be edited.

In this example Q-Sys Designer will need to have the CCN32 Card Properties setup as a 32x32 device in order to accommodate all the inbound CobraNet audio channels. Once the CCN32 properties have been established and the Input Block is located in the Q-Sys Design, we should be ready to start mapping the audio channels within Disco.

At this point I am going to assume that the Bundle assignments have already been established and assigned according to the instructions listed earlier. I will be using all "unicast" bundles (1015 – 1022).

IP Address	Condu	ctor 📃				
9.0.0.7				Advanced	Report	Configure
Bundle	Туре	Number	Statu	s		
1015	Rx	1	1			
1016	Rx	2	1			
1017	Rx	3	1			
1018	Rx	4	1			
1019	Rx	5	1			-
1020	Rx	6	1			
1021	Rx	7	1			
1022	Rx	8	1			*

CobraNet Configuration - RX1 Bundle

	Bundle 10:	15	
Ch.	SubMap	SubFormat	
1	33	48 kHz, 20, 5 1/3 mS	
2	34	48 kHz, 20, 5 1/3 mS	
3	35	48 kHz, 20, 5 1/3 mS	
4	36	48 kHz, 20, 5 1/3 mS	
5	37	Not Receiving	
6	38	Not Receiving	
7	39	Not Receiving	
8	40	Not Receiving	

Receiver 1 Configuration - SubMap Default

At this point we need to un-assign the 4 audio channels that are not being received by entering a "0" in place of the default SubMap assignment.

	Bundle 101	5				
Ch.	SubMap	SubFormat				
1	33	48 kHz, 20, 5 1/3 mS				
2	34	48 kHz, 20, 5 1/3 mS				
3	35	48 kHz, 20, 5 1/3 mS				
4	36	48 kHz, 20, 5 1/3 mS				
5	0	Not Receiving				
6	0	Not Receiving				
7	0	Not Receiving				
8	0	Not Receiving				

Receiver 1 Configuration – SubMap Edited

Once the edit has been made go ahead and click "Apply" and then "OK".

Rev 2CobraNet Bundle Assignment Procedure Using CobraNet Discovery

IP Address	Condu	ctor 🗌				
9.0.0.7			Ac	dvanced	Report	Configure
Bundle	Туре	Number	Status			2
1015	Rx	1	1			
1016	Rx	2	1			
1017	Rx	3	1			
1018	Rx	4	1			5
1019	Rx	5	1			1
1020	Rx	6	1			
1021	Rx	7	1			
1022	Rx	8	1			

CobraNet Configuration - RX1 Bundle

Now open up the second bundle that will need to be edited.

	Bundle 101	.6
Ch.	SubMap	SubFormat
1	41	48 kHz, 20, 5 1/3 mS
2	42	48 kHz, 20, 5 1/3 mS
3	43	48 kHz, 20, 5 1/3 mS
4	44	48 kHz, 20, 5 1/3 mS
5	45	Not Receiving
6	46	Not Receiving
7	47	Not Receiving
8	48	Not Receiving

Receiver 2 Configuration - SubMap Default

Due to the way the SubMap is set by default for the second bundle, the CobraNet audio channels will show up within the CCN32 Input Block starting at channel 9. Since the second bundle (1016) is actually carrying audio channels 5 - 8, we need to reassign the SubMap so that they show up at the proper CobraNet input within Q-Sys. Again the first bundle (1015) has a SubMap routing of 33 - 36 for audio channels 1 - 4 which means that in order to continue the sequence, the second bundle (1016) will need to have a SubMap routing of 37 - 40 in order to reach CCN32 Inputs 5 - 8.

	Bundle 101	16
Ch.	SubMap	SubFormat
1	37	48 kHz, 20, 5 1/3 mS
2	38	48 kHz, 20, 5 1/3 mS
3	39	48 kHz, 20, 5 1/3 mS
4	40	48 kHz, 20, 5 1/3 mS
5	0	Not Receiving
6	0	Not Receiving
7	0	Not Receiving
8	q	Not Receiving

Receiver 2 Configuration – SubMap Edited

Once the edit has been made go ahead and click "Apply" and then "OK".

The key is to "zero out" the unused audio channels within each bundle and then follow the SubMap Sequence established by the first two bundles in the example. So the next four audio channels being received by the third bundle (1017) would need to have the SubMap assignment of 41 - 44 in order to reach CCN32 Input Block Channels 9 – 12.

To make the routing easier, I have included a set of **SubMap Routing Tables** for bundles that are transmitting 2, 4, or 8 audio channels per bundle and how the SubMap should be set for 32x32, 16x16, 8x8, and 4x4 CCN32 CobraNet Card configurations.

NOTE: The SubMap does have a default setting but ultimately is user defined. It is possible to have a mix of CobraNet bundles that are carrying 2, 4, AND 8 audio channels per bundle assigned to the same Q-Sys CCN32 Input Block. The SubMap will have to be adjusted on each bundle accommodate the routing so that ALL channels will show up at the appropriate CCN32 input channel on the Input Block.

32x32 SubMap Routing Table 8 Audio Channels per Bundle

		CobraNet	Discovery		
CCN32 32 x 32	CobraNet Receiver	Bundle Number (Example)	Bundle Channel	Bundle SubMap	Q-Sys Designer 32 Channel CobraNet Input Block
			1	33	1
els			2	34	2
ann			3	35	3
Ch	D _V 1	Rx1 1001	4	36	4
Idio	LX1		5	37	5
Au			6	38	6
(8)			7	39	7
of			8	40	8
es			1	41	9
ndl			2	42	10
Bu			3	43	11
Net	Dv2	1002	4	44	12
bra	πXZ	1002	5	45	13
S			6	46	14
(4)			7	47	15
			8	48	16

			1	49	17
			2	50	18
			3	51	19
	Dv2	1002	4	52	20
	nxo	1005	5	53	21
			6	54	22
			7	55	23
			8	56	24
			1	57	25
			2	58	26
			3	59	27
	Dv/	1004	4	60	28
	NX4	1004	5	61	29
			6	62	30
			7	63	31
			8	64	32

32x32 SubMap Routing Table 4 Audio Channels per Bundle

		CobraNet	Discovery		
CCN32 32 x 32	CobraNet Receiver	Bundle Number (Example)	Bundle Channel	Bundle SubMap	Q-Sys Designer 32 Channel CobraNet Input Block
			1	33	1
iels			2	34	2
ann			3	35	3
ch	Pv1	1001	4	36	4
Idio	IVYT	1001	5	0	n/a
Au			6	0	n/a
(4)			7	0	n/a
of			8	0	n/a
es			1	37	5
lpu			2	38	6
t Bu			3	39	7
Net	Rv2	1002	4	40	8
bra	1172	1002	5	0	n/a
S			6	0	n/a
(8)			7	0	n/a
			8	0	n/a

			1	41	9
			2	42	10
			3	43	11
	D.v2	1002	4	44	12
	KX3	1003	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	45	13
			2	46	14
			3	47	15
	P√/	1004	4	48	16
	1174	1004	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
	Rx5	x5 1005	1	49	17
			2	50	18
			3	51	19
			4	52	20
			5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	53	21
			2	54	22
			3	55	23
	Rv6	1006	4	56	24
	1170	1000	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	57	25
			2	58	26
			3	59	27
	Ry7	1007	4	60	28
		1007	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
	Rx8	1008	1	61	29

Rev 2 CobraNet Bundle Assignment Procedure Using CobraNet Discovery

	2	62	30
	3	63	31
	4	64	32
	5	0	n/a
	6	0	n/a
	7	0	n/a
	8	0	n/a

32x32 SubMap Routing Table 2 Audio Channels per Bundle

		CobraNet	Discovery		
CCN32 32 x 32	CobraNet Receiver	Bundle Number (Example)	Bundle Channel	Bundle SubMap	Q-Sys Designer 32 Channel CobraNet Input Block
sli			1	33	1
nne			2	34	2
Cha			3	0	n/a
dio (Rx1	1001	4	0	n/a
Auc		1001	5	0	n/a
(2)			6	0	n/a
of (7	0	n/a
Š			8	0	n/a
olle			1	35	3
Bun			2	36	4
let			3	0	n/a
oraN	Rx2	1002	4	0	n/a
Cob			5	0	n/a
(9			6	0	n/a
(1			7	0	n/a

			8	0	n/a
			1	37	5
			2	38	6
	Dv2		3	0	n/a
		1002	4	0	n/a
	RXS	1002	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	39	7
			2	40	8
			3	0	n/a
	Rv∕I	100/	4	0	n/a
	11.74	1004	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	41	9
		1005	2	42	10
	Rx5		3	0	n/a
			4	0	n/a
			5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	43	11
			2	44	12
			3	0	n/a
	Rv6	1006	4	0	n/a
	NAU	1000	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	45	13
			2	46	14
			3	0	n/a
	Rv7	1007	4	0	n/a
		1007	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a

			1	47	15
			2	48	16
			3	0	n/a
	DvQ	1008	4	0	n/a
	IXO	1008	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	49	17
			2	50	18
			3	0	n/a
	RvQ	1009	4	0	n/a
	117.5	1005	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	51	19
			2	52	20
	Rx10	1010	3	0	n/a
			4	0	n/a
			5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	53	21
			2	54	22
			3	0	n/a
	Rx11	1011	4	0	n/a
	INII	1011	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	55	23
			2	56	24
			3	0	n/a
	Rx12	1012	4	0	n/a
	10112		5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
	Rx13	1013	1	57	25

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			2	58	26
			3	0	n/a
			4	0	n/a
			5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	59	27
			2	60	28
			3	0	n/a
	Dv14	1014	4	0	n/a
	TX14	1014	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	61	29
		1015	2	62	30
			3	0	n/a
	Dv15		4	0	n/a
	INTO	1015	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	63	31
			2	64	32
			3	0	n/a
	Pv16	1016	4	0	n/a
	NX10	1010	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a

16 x 16 SubMap Routing Table 8 Audio Channels per Bundle

		CobraNet			
CCN32 16x16	CobraNet Receiver	Bundle Number (Example)	Bundle Channel	Bundle SubMap	Q-Sys Designer 16 Channel CobraNet Input Block
vet es 3)			1	33	1
orar Indl f (8	Rx1	1001	2	34	2
Du Bu			3	35	3

CobraNet Bundle Assignment Procedure Using CobraNet Discovery

			4	36	4
			5	37	5
			6	38	6
			7	39	7
			8	40	8
		Rx2 1002	1	41	9
			2	42	10
			3	43	11
	Dv2		4	44	12
	RXZ		5	45	13
			6	46	14
			7	47	15
			8	48	16

16 x 16 SubMap Routing Table 4 Audio Channels per Bundle

		CobraNet			
CCN32 16 x 16	CobraNet Receiver	Bundle Number (Example)	Bundle Channel	Bundle SubMap	Q-Sys Designer 16 Channel CobraNet Input Block
s			1	33	1
aur			2	34	2
Chai			3	35	3
io O	Rv1	1001	4	36	4
Aud	INT	1001	5	0	n/a
4) /			6	0	n/a
f (7	0	n/a
0			8	0	n/a
dles			1	37	5
nn			2	38	6
et E			3	39	7
raN	Rx2	1002	4	40	8
Cob			5	0	n/a
4) (6	0	n/a
7)			7	0	n/a

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			8	0	n/a
			1	41	9
			2	42	10
			3	43	11
	Dv2	1002	4	44	12
	КХЭ	1003	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	45	13
			2	46	14
			3	47	15
	Dv/	1004	4	48	16
	KX4	1004	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a

16 x 16 SubMap Routing Table 2 Audio Channels per Bundle

		CobraNet			
CCN32 16 x 16	CobraNet Receiver	Bundle Number (Example)	Bundle Channel	Bundle SubMap	Q-Sys Designer 16 Channel CobraNet Input Block
s			1	33	1
nne			2	34	2
Cha			3	0	n/a
dio (P√1	1001	4	0	n/a
Auc	IVYT	1001	5	0	n/a
(2)			6	0	n/a
of (7	0	n/a
Š			8	0	n/a
olle			1	35	3
Bun			2	36	4
Vet			3	0	n/a
oraN	Rx2	1002	4	0	n/a
Cob			5	0	n/a
(9			6	0	n/a
(1			7	0	n/a

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			8	0	n/a
			1	37	5
			2	38	6
			3	0	n/a
	Dv2	1002	4	0	n/a
	RXS	1002	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	39	7
			2	40	8
			3	0	n/a
	Rv∕I	100/	4	0	n/a
	11.74	1004	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	41	9
			2	42	10
			3	0	n/a
	Rv5	1005	4	0	n/a
	RXJ	1005	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	43	11
			2	44	12
			3	0	n/a
	Rv6	1006	4	0	n/a
	NAU	1000	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
			1	45	13
			2	46	14
			3	0	n/a
	Rv7	1007	4	0	n/a
		1007	5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a

CobraNet Bundle Assignment Procedure Using CobraNet Discovery

		1	47	15
		2	48	16
		3	0	n/a
Dv0	Rx8 1008	4	0	n/a
NXO		5	0	n/a
		6	0	n/a
		7	0	n/a
		8	0	n/a

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8 x 8 SubMap Routing Table 8 Audio Channels per Bundle

		CobraNet			
CCN32 8 x 8	CobraNet Receiver	Bundle Number (Example)	Bundle Channel	Bundle SubMap	Q-Sys Designer 8 Channel CobraNet Input Block
of			1	33	1
le els			2	34	2
nna			3	35	3
it Bu Ch	Dv1	1001	4	36	4
aNe Idio	UXT	1001	5	37	5
obr; Au			6	38	6
) C			7	39	7
(1			8	40	8

8 x 8 SubMap Routing Table 4 Audio Channels per Bundle

		CobraNet			
CCN32		Bundle			Q-Sys Designer 8 Channel
8 x 8	CobraNet	Number	Bundle	Bundle	CobraNet Input Block
	Receiver	(Example)	Channel	SubMap	

			1	33	1
lels			2	34	2
ann			3	35	3
ch	Dv1	1001	4	36	4
Idio	UXT	1001	5	0	n/a
Αu			6	0	n/a
(4)			7	0	n/a
of			8	0	n/a
es			1	37	5
lpu			2	38	6
: Bu			3	39	7
Net	Pv2	1002	4	40	8
Cobra	NXZ	1002	5	0	n/a
			6	0	n/a
(2)			7	0	n/a
			8	0	n/a

8 x 8 SubMap Routing Table 2 Audio Channels per Bundle

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		CobraNet			
CCN32 8 x 8	CobraNet Receiver	Bundle Number (Example)	Bundle Channel	Bundle SubMap	Q-Sys Designer 8 Channel CobraNet Input Block
of (2) Audio Channels	Rx1	1001	1	33	1
			2	34	2
			3	0	n/a
			4	0	n/a
			5	0	n/a
			6	0	n/a
			7	0	n/a
			8	0	n/a
4) CobraNet Bundles	Rx2	1002	1	35	3
			2	36	4
			3	0	n/a
			4	0	n/a
			5	0	n/a
			6	0	n/a
2			7	0	n/a

CobraNet Bundle Assignment Procedure Using CobraNet Discovery

		8	0	n/a
Rx3	1003	1	37	5
		2	38	6
		3	0	n/a
		4	0	n/a
		5	0	n/a
		6	0	n/a
		7	0	n/a
		8	0	n/a
Rx4	1004	1	39	7
		2	40	8
		3	0	n/a
		4	0	n/a
		5	0	n/a
		6	0	n/a
		7	0	n/a
		8	0	n/a

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