

# Unity Intercom 3 Server Configuration Manual

**Overview** 

The Unity Intercom system is a 128 channel full-duplex intercom system that can support up to 64 simultaneous devices including IOS, Android, Windows and Mac varieties. Each client can access any of the 128 channels in groups of 6. Unity Intercom can also use external audio interfaces to send and receive audio from other intercom systems and can also display tally signals from most video mixers directly on remote Unity Intercom Client displays.

### Introduction to Unity Intercom Server

Unity Intercom Server is a Mac OS X-based application that runs on OS X versions 10.9 and above. Unity Intercom Server communicates with remote devices using UDP communication resulting in efficient low-latency operation. Unity Intercom clients are available for IOS (version 7 or later), Android (version 4.0.1 or later), Mac OS X (version 10.9 or later) and Windows (Vista and later). The Windows version comes in two flavors: desktop and tablet formats.

Although the UDP protocol allows for low-latency communication, it is not a guaranteed-delivery protocol and audio packets can be lost on the network. Therefore, it is strongly recommended (but not required) that the computer running Unity Intercom Server be hard-wired into the network using standard network wiring. Unity Intercom Server transmits Bonjour packets that remote devices can use for server discovery but optionally, remote devices can be configured to direct-connect to the Unity Intercom Server using the server's DNS name or IP address and network port number. This may be necessary when Unity Intercom Server is used in networks that have disabled Bonjour or otherwise have Examples of this include multiple-subnet networks, and networks that consist of more than one VLAN. (Bonjour usually will not cross VLAN boundaries).

## Basic Unity Intercom Configuration

To begin using Unity Intercom, you must first configure a few basic settings. Since Unity Intercom is a networkbased communication system, you must first connect your Mac to either a hard-wired network or a Wi-Fi network that all the remote Unity Intercom client devices in the system can access. Next, you must specify an audio device for system timing purposes. If input devices are available on your Mac, you can specify this using the Input Device drop-down box. Usually this will be the Built-In Line Input of your Mac. If no audio input devices are available, Unity Intercom will use the default audio output device for timing reference. Next, create a user on the Users tab. Click the "+" button at the bottom left and fill in the required information to create a user. You must create a Username. Password and Enable that user for them to be able to use Unity Intercom. After completing these steps, a user should be able to open Unity Intercom on their remote client device, log in, and begin using Unity Intercom to talk and listen to other users on the system.

#### You install Unity Intercom by downloading a DMG file from Unity Intercom either unityintercom.com or your local Unity Intercom Settings vendor's website. Mount the DMG file and drag the Unity - General Intercom Server application to your Applications folder right inside the DMG file installation screen. Once installed, you can launch Unity Intercom Server from your Mac Applications folder. Once launched, you will be prompted to enter an activation code that you received in your welcome email from the Unity Intercom website or from your Unity Intercom dealer. Note that you must have internet access to successfully activate Unity Intercom Server. After this, you will only need internet connectivity if you are adding Unity Intercom licenses or need external network access to your server.

After activation, you'll see the Unity Intercom Server icon appear in the top menu bar of your computer. Selecting *Settings* from the Unity Intercom menu will show you a window similar to the following:

Unity Intercom	General	Channels	Groups	<b>Q</b> Users	(() Audio Feeds	>>
General Settings		Network Co	onfiguration	/ Security	y	
Server Name Home Server		Networ	k Port Nu	mber	20101	
Start at Login 📃 Show in D	ock 🗹	Disable	Anonymo		List Access	
System Sample Rate 48 I	(Hz 🔽	Networ	k Interfac	e	Any	
External I/O Configuration						
Input Device M	lacBook Pro N	licrophone				
Output Device M	lacBook Pro S	peakers				

Server Name- This is a simple text description for the server installation. It will be used by Unity Intercom Clients to enable fast logoff/logon switching and previous server attachment memory. Otherwise, it is not used in the server itself and can be left blank.

**Start at Login-** If this box is checked, the Unity Intercom Server will start automatically each time a user logs into the Mac. If not checked, Unity Intercom Server will have to be manually started. Unity Intercom Server runs as a user process on the Mac, so a valid Mac user must be logged in for Unity Intercom Server to operate. Unity Intercom Server does not run as a background service.

**Show in Dock** – Checking this box tells Unity Intercom Server to create an application icon in the system dock window and add an entry into the task list so that the application can be accessed through standard OS X navigation routines (such as Command-Tab). If left unchecked, Unity Intercom runs in the top-bar as a system tray application.

System Sample Rate – At the core level, Unity Intercom Server runs at either 48 kHz or 44.1 kHz sample rates. In most cases you should leave this set to the default 48 kHz, since most modern devices support 48kHz operation natively. Use 44.1 kHz if your audio hardware is restricted to 44.1 kHz operation only. All remote devices will switch automatically to run at the system sample rate set here in the server.

**Network Port Number** – The Unity Intercom Server transmits and receives audio packets using UDP sockets, and this setting specifies which UDP port number the server will use for incoming connections. Unity Intercom also uses the same port number with the TCP protocol for transferring user list information. The default port number is 20101 and should work fine for most installations. If you desire to access your Unity Intercom Server remotely from outside your network, this is the port number that generally needs to be forwarded through your firewall to your Unity Intercom Server. Make sure you forward both the TCP and UDP ports.

**Disable Anonymous User List Access** – Checking this box tells Unity Intercom Server to only display the user list to HTTP requests coming from the same IP address as a logged-in Unity Intercom Client user.

**Network Interface** – This pull-down allows you to specify what network interface Unity Intercom Server uses if your computer has more than one. This can normally be left at "Any", but you might want to restrict it to a particular interface if you are using a Dante Virtual Soundcard as your audio device and want to keep the Unity Intercom traffic separate from the Dante network.

**Input Device** – You must select an audio input capable of either 48 kHz or 44.1 kHz audio as a timing source for the Unity Intercom Server. In addition, any program audio feed (like your Front Of House audio mix) will also be input through this device. This will usually be the line input of your Mac or any commercially available audio interface compatible with the Mac. If your Mac does not have any audio input devices, Unity Intercom Server will use the default audio output device specified in System Preferences as the timing reference.

**Output Device** – The audio output device is optionally specified for sending Unity Intercom PL traffic to certain audio output destinations. If specified, this must be an audio output device capable of either 48 kHz or 44.1 kHz audio.

 Unity Intercom Settings
 Channels
 Selecting the *Channels* button on the Unity Intercom Settings toolbar will display the Unity Intercom channel configuration screen. An example configuration of 12 channels is shown below:

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															310110					
Label	Abbreviation	Input Nu	mber	Input Le	evel	Input Ga	ite	Output N	umber	Outpu	t Level	GPIO	IFB Inp	ut	IFB Le	vel	IFB Du	ıck	In Ducks	Test
OK Tech	TEK		٥	0 db	٥	-∞ db	٥	N/A	٥	-20 c	lb ≎		N/A	٥	0 db	٥	0 db	٥		
OK Sup Prod	SP	N/A	٥	0 db	٥	-30 db	٥	N/A	٥	0 db	٥		N/A	٥	0 db	٥	0 db	٥		
OK Officers	OFC	N/A	٥	0 db	٥	-30 db	٥	N/A	٥	0 db	٥		N/A	٥	0 db	٥	0 db	٥		
OK Cameras	CAM	N/A	٥	0 db	٥	-30 db	٥	N/A	٥	0 db	٥		N/A	٥	0 db	٥	0 db	٥		
TX Tech	ТЕК	N/A	٥	0 db	٥	-30 db	٥	N/A	٥	0 db	٥		N/A	٥	0 db	٥	0 db	٥		
TX Sup Prod	SP	N/A	٥	0 db	٥	-30 db	٥	N/A	٥	0 db	٥		N/A	٥	0 db	٥	0 db	٥		
TX Officers	OFC	N/A	٥	0 db	٥	-30 db	٥	N/A	٥	0 db	٥		N/A	٥	0 db	٥	0 db	٥		
TX Cameras	CAM	N/A	٥	0 db	٥	-30 db	٥	N/A	0	0 db	٥		N/A	٥	0 db	٥	0 db	٥		
KS Tech	ТЕК	N/A	٥	0 db	٥	-30 db	٥	N/A	٥	0 db	٥		N/A	٥	0 db	٥	0 db	٥		
KS Sup Prod	SP	N/A	٥	0 db	٥	-30 db	٥	N/A	0	0 db	0		N/A	٥	0 db	٥	0 db	٥		
KS Officers	OFC	N/A	٥	0 db	٥	-30 db	٥	N/A	0	0 db	٥		N/A	٥	0 db	٥	0 db	٥		
KS Cameras	CAM	N/A	0	0 db	0	-30 db	٥	N/A	0	0 db	0		N/A	0	0 db	0	0 db	0		
+ -																				

<u>Note:</u> The same row/column relocation described in this section can be performed on most tables throughout the Unity Intercom Server setup process. This table can be sorted in increasing/decreasing alphabetic order by clicking on either the *Label*, *Abbreviation, Input Number or Output Number* columns. Individual entries can be rearranged by simply dragging and dropping the horizontal rows. In addition, the columns can also be rearranged by dragging a column to a different position on the screen. These changes will be saved between Unity Intercom Server sessions.

**Label** – This is an alpha-numeric description for the specified PL channel. It is displayed by the information display on each client, and is also used by the Groups assignment page of the server.

Abbreviation – A short version of the channel label that is used by the Users page and is also displayed in the channel selection wheel of each Unity Intercom client. It is recommended to keep these abbreviations to four characters or less for readability but note that each Unity Intercom Client will scale the text appropriately according to content.

Input Number – This specifies which input number from the *Input Device* specified on the *General* page will be mixed-in with regular Unity Intercom party-line

communications. This audio will only be sent to remote Unity Intercom Clients and will not be sent back to any specified *Output Number*.

**Input Level** – This sets the audio input level for the audio input specified in the *Input Number* setting. The default for this is 0db, which implies no signal boost or reduction. The valid range for this is from -20db to +10db.

Note:

Setting the Input Gate to -∞ db will result in the Unity Intercom Server continuously transmitting audio. This may have a negative effect on cellular data usage for remote clients. **Input Gate** – This sets a noise gate threshold for audio arriving at the specified *Input Number*. The signal power must be higher than this setting for the audio to be heard by the various Unity Intercom Clients. The valid range for this is from  $-\infty$  (audio continually streams regardless of the input level) to -24db.

**Output Number** – This specifies which output number from the *Output Device* specified on the *General* page will receive any audio generated by Unity Intercom Clients.

**Output Level** – This sets the audio output level for the audio output specified in the *Output Number* setting. The default for this is 0db. The valid range of adjustment is from -20db to +10db.

**GPIO** – This indicates which GPIO relay will be closed when audio is detected on the specified channel. Requires the Unity Intercom Online Status GPIO License.

**IFB Input** – This indicates the audio input number for hardware analog IFB audio. This is only available for Unity Intercom Pro Subscribers.

**IFB Level** – This indicates the audio input level for hardware analog IFB input. This is only available for Unity Intercom Pro Subscribers.

**IFB Duck** – This specifies the amount that the hardware analog IFB audio is ducked if a Unity Intercom Client is communicating on the specified channel, or if analog audio is present at the "Input Number" and "In Ducks" option is selected. This is only available for Unity Intercom Pro subscribers.

In Ducks – If checked, the audio specified by "Input Number" will also duck the hardware analog IFB if it

exceeds the "Input Gate" threshold, only if an "IFB Input" is also specified. This is only available for Unity Intercom Pro subscribers.

**Test** – If this is clicked, a 1 kHz test tone will be generated for 10 seconds to the output specified in *Output Number*, as well as all Unity Intercom Clients that are listening to the specified channel. This helps verify system connectivity and operation.

## Unity Intercom Settings

Selecting the Groups button on the Unity Intercom Settings toolbar will display the Unity Intercom group configuration screen. An example of this configured - Groups with three groups is shown below:

Unity Intercom		Gene	🔅 🎲 General Channels		oups Users	Audio Feeds		Ily/GPIO	<b>V</b> Pro	K Advanced	Purchases	>>
Group Name	1		2		3		4			5	6	
Oklahoma	OK Tech	\$ (	OK Sup Prod	٥	OK Officers	٥	OK Camer	as 🗘	N/A	٥	N/A	٥
Texas	TX Tech	\$.	TX Sup Prod	٥	TX Officers	٥	TX Camer	as 🗘	N/A	\$	N/A	٥
Kansas	KS Tech	\$	KS Sup Prod	\$	KS Officers	\$	KS Camer	as 🗘	N/A	\$	N/A	\$
+ -												

Remote Unity Intercom Clients can only access the Unity Intercom party-line channels in groups of 6 channels without a Unity Intercom Pro subscription. This screen is used to specify which channels from the Channels page are contained in each group. Users may or may not have access to each group based on their Users page assignments.

Group Name - A simple text description for the specified group. This name will appear on remote Unity Intercom Clients that have access to multiple groups simultaneously.

**1 - 6** – The columns 1-6 correspond to the six channels available on the attached Unity Intercom Clients. Select which of the 128 channels from the Channels page are to be used by each of the six remote channels. Leaving any column set to N/A will prevent channel access.

## Unity Intercom Settings - Users

Selecting the "Users" button on the Unity Intercom Settings toolbar will display the Unity Intercom user configuration screen. An example of this configured with several users is shown below:

••	•	Unity Inter	com									Ç General	ې Channels	Groups	Use	rs Audi	) D Feeds	Tally/GPIO	<b>V</b> Pro	Advance	ed Purc	hases	0 Log
														Current	ly displ	ayed gro	up O	klahoma	_	_	_	_	0
	U	ser Name		Enable	Password	Admin	🔒 Chan	A Setting	Mic T	rim		Display Na	me	TEK		SP		OFC	CAM		N/A	N/	A
Chuc	ckD		٠	<b>V</b>	••••	<b>V</b>			0 db		Chuck				L	T L		T L	T	. 1	L		L
Matt	F _		•	<ul> <li>Image: A state of the state of</li></ul>	••••				0 db		Matt				L	1		L		. 1	L	1	L
Piper	rF				••••				0 db 0 db	Ŷ	Piper				-				T	. <mark> </mark>		T	-
Jong	,		•						0 00		JUII				-								
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<u>Note:</u> If you've purchased a Unity Intercom Max User license the total number of users will be unlimited, as denoted by the ∞ symbol. At the bottom center of the window you can see the current number of enabled users out of the maximum number of users that you have purchased user licenses for. You can create as many users in the Unity Intercom Server as you want but can only enable up to the purchased number of users at any one time. If a user is disabled on the server when they attempt to login, they will see a dialog that their user is disabled and will not be able to login to the Unity Intercom system.

**Currently displayed group** – On the upper right portion of this page is a drop-down box containing all of the channel groups specified on the *Groups* page. You must select the desired group before assigning individual channel access to each user.

**User Name** – This is a unique name that remote users will use to log into the Unity Intercom system. This name must be unique and must be at least 2 characters long. This field is NOT case-sensitive.

On the right-hand side of the *User Name* field is an online status indicator. This indicator will be gray if the

user is offline, green if the user is online, and orange if the user is in the process of being removed from the system. The orange indicator will last for 15 seconds before the user is removed.

**Enabled** – Checking this box enables the currently selected user. If you try to enable more users than you have licenses for, an alert box will be displayed indicating that you have exceeded your number of user licenses.

**Password** – Unity Intercom Client App users must log in to the system using a combination of user name and password. The password must be at least 4 characters long and is NOT case sensitive.

Priority Calling is like an "all-page" function. It enables an admin user to "shout" over everyone else and flashes their screen. This Priority Call function is only heard by the channels the admin user has selected to talk to.

Note:

Admin – If this box is checked, the remote device used by this user will display two additional admin-only buttons. This allows the remote user to do Priority Calling, which not only overrides all other voice traffic but also flashes an indicator on all devices that the admin user is talking to. Admin users can also un-latch all communication from desired channels, clearing a channel from unnecessary chatter. Any number of users can be enabled as an Admin.

**Lock Channel** – If this box is checked, then the specified user is not allowed to select their own talk/listen channels. If checked, the users talk/listen channels will be set exactly the same way that it is on the *Users* configuration screen.

**Lock Setting** – If this box is checked, the specified user is not allowed to enter their own Settings window on their device. This is good for non-technical users.

**Display Name** – This field is sent to remote devices and is displayed at the top of the Unity Intercom app. This is simply a title for the user, and can be used for any purpose. This will display the *Username* by default. Normally the upper limit that will fit on a remote device is 20 characters. In the above example, it is used to indicate which camera the user is operating. If the user moves to a different camera each week, the *Display Name* can be changed to match their camera position. This field can be left blank and will result in the Username being displayed at the top of the client

#### screen.

Note: When a user selects a channel to Talk to on their device, Listen will automatically be selected as well. **Channel 1 through Channel 6** – The right hand 6 columns of the user page indicate the party line channel permissions for each user. The column headers will display the channel abbreviation configured on the *General* settings page. You can click on the T or L boxes to enable *talk* and *listen* privileges for each channel. Note that you cannot enable a 'Talk Only' channel: you can configure talk AND listen, listen only, or disable access completely for each channel.

<u>Note</u>:

You cannot remove a user that is currently enabled. You must first disable the user then, delete them from the system. **+ and - Buttons** — On the bottom left of the screen, you can see the Add User and Remove User buttons ("**+**" and "–" respectively). To add a user, simply click the "**+**" button and fill in the Username and Password fields. To remove a user, highlight the desired user and click the "–" button. Note that a user must be disabled before you can remove them.

**Copy User/Paste User** – If you select a particular user by clicking on them with your mouse or track pad, you can copy and paste that user. The pasted user will have the same configuration as the copied user but will contain an incrementing number in the user name to guarantee uniqueness. The pasted user will also be disabled by default to avoid accidentally exceeding the maximum user license requirement.

Advanced Options – This button is only available for Unity Intercom Pro subscribers. This adds the ability to import users from a CSV file, export users to a CSV file, and batch delete disabled users. When importing users, you must select an existing user to be the "reference user". All imported users will have the same settings as the reference user except for the User Name, Display Name, and Password.

## Unity Intercom Settings - Audio Feeds

Selecting the *Audio Feeds* tab will display the following window. Note that you must either be in trial mode, have purchased the Audio I/O License or the Advanced Program Feed License to use most of the features of this window.

Program Feed Input Labels           Number         Default         Source         Input Level         Program Feed Name           1         Audio Input 1         0 db         Streaming Music         Imput Level         Imput Level         Program Feed Name           2         KS Officers         0 db         Mix Minus         Imput Level         Mix Minus         Imput Level         Im	•	• • U	Inity Intercom	<b>G</b> eneral	🌮 Channels	Groups	Users			• Tally,	i GPIO		💙 Pro	Ac	🐼 Ivance	ed	>>
Number         Default         Source         Input Level         Program Feed Name           1         Audio Input 1         0         0         b         Streaming Music           2         KS Officers         0         0         Mix Minus         Imput Level         Mix Minus           3         KS Tech         0         0         Mix Minus         Imput Level         Mix Minus           5         TX Cameras         0         0         Mix Minus         Imput Level         Mix Minus           6         KS Cameras         0         0         0         IFB 1         Imput Level         Imput L	Р	rogram Fee	d Input Labels														
Number         Default         Source         Input Level         Program Feed Name           1         Audio Input 1         0         0         5         Streaming Music           2         KS Officers         0         0         Mix Minus         Imput Level         Master Feed           3         KS Officers         0         0         Master Feed         Imput Level         Master Feed           4         OK Cameras         0         0         Master Feed         Imput Level         IFB 2           6         KS Cameras         0         0         IFB 3         Imput Level         IFB 2           7         OK Officers         0         0         0         IFB 3         Imput Level         Imput Level           7         OK Officers         0         0         Office         Imput Level         Imput Level         Imput Level           8         OFF         0         0         Office         Imput Level         Imput Level         Imput Level         Imput Level           User Name         User Selectable Program Feeds         Imput Level         Imput Level <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>																	
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2       KS Officers       0 db       Mix Minus         3       KS Tech       0 db       Master Feed         4       OK Cameras       0 db       IFB 1         5       TX Cameras       0 db       IFB 2         6       KS Cameras       0 db       IFB 3         7       OK Officers       0 db       IFB 3         7       OK Officers       0 db       8         9       OFF       0 db       8         0 OFF       0 db       8       9         0 Chuck       1-2,5       1 2 3 4 5 6 7 8         9 10 11 12 13 14 15 16       16         10 11 12 13 14 15 16       17 18 19 20 21 22 23 24         20 00 Jon       -       -         9 10 11 12 13 14 15 16       17 18 19 20 21 22 23 24         11 12 13 14 15 16       13 3 34 35 36 37 38 39 40         11 12 13 14 15 16       13 20         11 12 13 14 15 16       13 20         11 12 13 14 15 16       13 20         11 12 13 14 15 16       13 20         11 12 13 14 15 16       14 24 3 44 5 6 4 47 48         11 12 13 14 15 16       15 2 5 3 6 4 5 5 6         15 2 5 3 6 0 6 1 6 2 6 3 64         14 12 2 43 44 5 6 6 7 8		1	<b>V</b>	Audio Input 1		٥	0 db	٥	Strea	ming	Musi	с					
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8         OFF         0		7		OK Officers		\$	0 db	\$	Office	9							
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Mattr       Matt       1,3,6-7         PiperF       Piper       1,4-6         JonO       Jon       17       18       19       20       21       22       23       24         Image: Second Se	Cł	nuckD	Chuck		1-2	,5				1	2	3	4	5	6	7	8
PiperF       Piper       1,4-6         JonO       Jon       17       18       19       20       21       22       23       24         JonO       Jon       -	M	attF	Matt		1,3,	6-7					10	44	10	10	4.4	45	10
JonO       Jon       17       18       19       20       21       22       23       24         Independent       IndepInition       Independent       Independent       Independent       IndepEndent       IndepInition       IndepInit       IndepInition       IndepInition	Pi	perF	Piper		1,4-	-6				9	10	11	12	13	14	15	10
25       26       27       28       29       30       31       32         33       34       35       36       37       38       39       40         41       42       43       44       45       46       47       48         50       51       52       53       54       55       56         57       58       59       60       61       62       63       64         6	Jo	nO	Jon							17	18	19	20	21	22	23	24
33       34       35       36       37       38       39       40         41       42       43       44       45       46       47       48         49       50       51       52       53       54       55       56         57       58       59       60       61       62       63       64         49       50       51       52       53       54       56       56         57       58       59       60       61       62       63       64         50       51       52       53       54       56       56       57       58       59       60       61       62       63       64         50       51       52       53       54       56										25	26	27	28	29	30	31	32
41       42       43       44       45       46       47       48         49       50       51       52       53       54       55       56         57       58       59       60       61       62       63       64         9       50       51       52       53       54       56       56         57       58       59       60       61       62       63       64         9       50       51       52       53       54       56       56       57       58       59       60       61       62       63       64         9       50       51       52       53       54       56       56       56       56       57       58       59       60       61       62       63       64										33	34	35	36	37	38	39	40
Image: state of the state										41	42	43	44	45	46	47	48
1       1										19	50	51	52	53	54	55	56
Copy Feeds #C										57	50	50	60	61	62	62	64
										5/	-56	-59	-00	-01	02	03	04

<u>Note:</u> The User Name and Display Name are read-only in this table and cannot be edited The bottom left of this screen contains a duplicate user list as configured on the *Users* page. Additionally, this table shows any user-selectable program feeds that have been configured. This will be explained further in the *Allowed User Program Feeds* section below.

The screen is divided into three sections. The top section shows all 64 possible program feed inputs, along with their physical source and a text description which is used by Unity Intercom 3 clients for program

feed selection. The lower left section is a read-only display of each user, and the lower right portion shows the allowed program feeds for whatever user is currently selected.

**Number** – This is a simple read-only number from 1-64 showing the available program feeds.

<u>Note:</u> You are not required to specify a default program feed. **Default** – One of the program feeds can be designated the *default* program feed. This feed is available to every Unity Intercom user regardless of their individual program feed selections also configured on this page.

**Source** – For each of the 64 possible program feeds, you can specify where the audio originates from with the Source drop-down. These can come from any of the audio inputs from the preconfigured *Input Device* from the *General* page, or from any of the preconfigured channels set up in the *Channels* page.

**Program Feed Name** – This description is shown on the Unity Intercom Client applications to make it easier to select from various program feeds.

Allowed User Program Feeds - Note: this area is only enabled if you have purchased the Unity Intercom Advanced Program Feed upgrade. This area specified what audio inputs can be used by each user as a user selectable program feed. You must first click on a preconfigured user in the user table located on the bottom left, then enable or disable each of the 64 possible input audio channels that the user can choose from.

A read-only version of the available program feeds can be seen in the user table under the *User Selectable Program Feeds* column. They can only be edited by clicking on the appropriate channels in the *Allowed User Program Feeds* area.

# - Tally/GPIO

Unity Intercom Settings Selecting the Tally/GPIO tab will display the following window. Note that you must either be in trial mode or have purchased the Unity Intercom Tally License or Unity Intercom Online Status GPIO License to use the features in this window.

🔴 🔍 🕘 Unity Inte	ercom	<b>Ö</b> General	Channels	Groups	Q Users A	udio Feeds	>>
Tally/GPIO Interface Cor	nfiguration						
Tally Interface Type	TSL 3.1		SPI	О Туре	Off		
Tally Status			GPIO	Status	Inclu	ide Feed	
			GPIO IP A	ddress	Not Sp	ecified	
Tally Port	21133		GP	IO Port	98	00	
Tally Host Address			/ww.piper.	com:2012	22		
Liser Name	Diable	w Nomo			Tolont	CDIC	
	Ohuala				Talent		, 
ChuckD MattE	Chuck Matt		N/			Ν/Α Ν/Δ	
PiperF	Piper		N/			N/A	
JonO	Jon		N/	/A 🗘	Ĭ		
							_
	<b>56</b>	7 8	9 10			14 15	
	<u>ଅ</u> ଅ	23 24	25 26		28 29		32
	<b>.</b>	39 40	40 42	43	44 45	46 47	48
							64
			00 00 00 00		124 125		128
							-

find status indicators for the external tally interface (if the Unity Intercom Tally license has been purchased). These indicators will be grey if in the *Off* state, green if in *Preview* state, and red if *On-Air*. These indicators are a good way to see if the tally inputs are working properly and which tally indicator corresponds to your particular tally station.

**Tally Status** – At the bottom of this screen you will

If you are using a Blackmagic ATEM video mixer, Unity Intercom Server does NOT require a Blackmagic GPI/Tally interface. Tally Interface Type – Note: this field will only be enabled if you have purchased the Tally Interface upgrade. Set this to the type of device that the Unity Intercom Server will communicate with to obtain external tally information. Currently there are eight choices: Unity Intercom Universal, Unity Intercom Universal 2-Stage, Blackmagic ATEM, Newtek TriCaster, vMix and TSL 3.1.

Tally IP Address – Note: this field will only be enabled if you have purchased the Tally Interface upgrade. This field should be set to the IP address of either the Unity Intercom Universal Tally Interface, or the IP address of a Blackmagic ATEM, Newtek TriCaster, or vMix video mixer. This field is not used by the TSL 3.1 interface. This will allow the Unity Intercom Tally feature to communicate with your video mixer to display either a red Program tally or a green Preview tally (if your mixer is equipped) on the remote Unity Intercom Client interface.

Tally Port - Note: this field will only be enabled if you have purchased the Tally Interface upgrade. This field is used only by the TSL 3.1 tally interface, and is the TCP port that the Unity Intercom Server will listen on for remote TSL tally information. By default this port is 20110, but can be set to any port number between 1 and 65535. This must match the TSL configuration specified on your video switcher.

GPIO Type - Note: this field will only be enabled if you have purchased the Unity Intercom Online Status GPIO License. This field specifies the type of the external GPIO device that is attached, and currently the only available interface is the Unity Intercom Six Relay interface (purchased separately). Each of the GPIO outputs will be triggered when users log in to the system, and turn off when they log out or otherwise leave the coverage area.

GPIO IP Address - Note: this field will only be enabled if you have purchased the Unity Intercom Online Status GPIO License. This field specifies the IP address of the remote Unity Intercom Six Relay Interface.

te: The area of the window contains another copy of the user list as configured on the *Users* page, but with a few extra configurable columns as explained below.

**Tally ID** – Each of the remote devices can receive tally information and show it on the display of their device. This drop-down field selects which of the tally inputs will be sent to each user. Using the screenshot above, if Chuck is operating Camera 1 and his camera is plugged into input 1 of the video mixer, then selecting *Tally ID* "1" will light his Unity Intercom app display when the video mixer is switched to video input 1. Select **N/A** if you do not wish to send tally information to the selected user's device.

**Talent** – When the Tally ID is set to on and the Talent Tally checkbox is checked, the remote Unity Intercom device will illuminate the rear flash/LED when that device receives a tally signal. When you mount the device so that the rear of it can be seen from the talent position, this serves as an On-Air Tally light for the talent so they know which camera is live at any given moment. Note that this feature is not available on Windows, Mac or iPod Touch clients.

**GPIO** - This dropdown field selects the GPIO relay that is closed when a particular user is logged in. These inputs can be combined in an '**or**' type of configuration. For example, you might configure three different users to all use GPIO relay number 1. What this implies is that if **any** of the three users is currently logged in, then GPIO relay number 1 would be closed.

<u>Note:</u> The User Name and Display Name are read-only in this table and cannot be edited.

<u>Note:</u> Using the Talent Tally feature will affect battery performance of the device. Consider local power for the device if using the Talent Tally for extended periods.

## Unity Intercom Settings - Pro

Selecting the *Pro* tab will display the following window. The Unity Intercom Pro subscription will also unlock advanced features such as individual party-line channel volume control, global channels, import/export users, and more to come.

Or Ur	nity Intercom	<b>Ö</b> General	🎲 Channels	Groups	Q Users	Audio Feeds	Tally/GPIO		K Advanced	×
Unity Intercom	n Pro Status									
🗸 Da	ata Encryption 🥚		C	Online Ba	ckup 🧲		<b>V</b>	Server N	Aonitoring	
Notification De	estinations									
Em	ail Addresses, One per	line			Pho	one Numbers	, One per L	ine		
									Delete Num	
Do Not Monito	or During These Times									
s s	unday 📄 Monday	,	Tuesday	🔲 We	ednesday	Thursda	iy 🔲 F	riday	Satur	day
Start 12:0			00 AM							
Stop 12:0			00 AM							
Email and Text	t Message Content									
Туре	Lost Connection	\$	Repeat Mi	nutes	No Repe	eat ≎	Rep	eat Times		
Subject L	ost communication	with Ur	nity Interc	om Pro	tect Mo	nitoring Se	rvice			
Content T F Test	The Unity Intercom a Protect Monitoring S	Server h Service	as stoppe	ed com	municat	ing with th	e remote	Unity Int	tercom	

<u>Note:</u> Selecting this option may cause older devices to be unable to login. **Data Encryption** — By selecting this option, the server is encrypted with AES256-GCM encryption. Green indicates all communications are encrypted, Orange indicates not all communications are encrypted, and Red indicates no active Unity Intercom Pro subscription.

**Online Backup** – If checked, this enables automatic online configuration backups for the Unity Intercom Server. In the event of a machine failure, licenses can be transferred, and the configuration can be restored to the most recent changes. This eliminates the need to manually save your configuration to file.

**Server Monitoring** — If enabled, the status of the Unity Intercom Server will be always monitored (unless specified otherwise). Users indicated in the Notification Destinations section will receive an email and/or text message in the event of a failure.

**Notification Destinations** — Indicate which email address(es) and phone number(s) are to receive an alert in the event of a Unity Intercom Server failure.

**Do Not Monitor During These Times**— Indicate days and times that the Unity Intercom Server does not need to be monitored

**Email and Text Message Content** — Write the Subject and message Content that are to be sent for Lost Connection, Application Error, and Recovered From Error. These messages will be sent to all users indicated in the Notification Destinations section, and can be set to repeatedly send, or just send once.

## Unity Intercom Settings - Advanced

Selecting the *Advanced* tab will display the following window. These are features that allow additional hardware configuration and can impact CPU usage on the Mac computer running Unity Intercom Server.



<u>Note:</u> Selecting this option may increase the Mac system CPU usage by up to 10% **Configure Audio Devices in Ultra-Low Latency Mode for Wired Clients** — By selecting this option, the server will be configured to run at 4X the desired sample rate. This is to allow wired clients to run at much lower latencies (10ms end-to-end). This setting will have no effect on wireless clients such as IOS and Android clients.

**Open Output Audio Device for Exclusive Access** — Normally output audio devices are open in shared mode, which uses the Mac system audio mixer. This software mixer incurs a bit of latency in the output audio path (nearly 20ms worth of delay). By selecting this option, you can reduce the output delay by nearly 20ms. Note that this option will not reduce any latency if your output audio device is an aggregate audio device. This is due to the fact that aggregate audio devices by definition must use the system software audio mixer.

Leave TCP Port Open when Encryption is Enabled — With the Unity Intercom Pro subscription active and Encryption turned on, the TCP port will no longer be needed for the Unity Intercom Server. The server will only require UDP. Checking this will keep the TCP port open. This option is primarily for users that access the user online configuration outside of Unity Intercom.

 Unity Intercom Settings
 Purchases
 Purchases
 Selecting the Purchases tab will display the following window. This tab is where users will go to manage their Unity Intercom Pro subscriptions, or to add additional licenses to their Unity Intercom system.

● ● ● Un	ity Intercom	<b>Ö</b> General	Channels	Groups	Users	() Audio Feeds	Tally/GPIO	<b>V</b> Pro	K Advanced	>>
	Base 3 Us	ser Lic	ense					In	stalled	
V	Pro Subso	criptio	n					Μ	lanage	
Q	I/O Licens	se						In	stalled	
Ø	Tally Lice	nse						In	stalled	
	Online Sta	atus G	PIO Li	cense	)			Ρι	ırchase	
	Advanced	d Prog	ram Fe	eed Li	cense	9		In	stalled	
0	Expanded	l Char	nels a	ind Gr	oups			In	stalled	
62	Two User	Licen	se Ado	d-On				Ρι	ırchase	
-5	Five User	Licen	se Ado	d-On		Ins	talled 1 time(s)	Ρι	ırchase	
	Ten User	Licens	e Add	l-On			talled 2 time(s)	Ρι	ırchase	

<u>Note</u>: You must purchase a base 3 user license before adding any additional Unity Intercom licenses. **Unity Intercom Base 3 User License** – A Unity Intercom base license is required for the Unity Intercom Server to operate beyond the trial period. This may be indicated as a *Unity Intercom 3 Server License* or a *Unity Intercom 3 User Upgrade License*, depending on whether or not this is an existing Unity Intercom 2 installation. No other licenses can be installed without a Unity Intercom 3 Base License.

**Unity Intercom Pro Subscription** – This enables online backups to the Cloud, online system monitoring, and AES256-GCM data encryption. This also unlocks advanced features such as individual party-line channel volume controls, global channels, import/export users, and more to come.

**Unity Intercom I/O License** – This upgrade allows you to send Unity Intercom audio streams to or receive external audio streams from audio devices. Using this feature you can integrate a Unity Intercom system with other intercom systems from manufacturers like ClearCom or Telex/RTS. This will allow you to use a Unity Intercom system to provide a wireless com station in combination with the hardwired system without the expense of RF wireless systems.

<u>Note:</u> You do not have to purchase the Blackmagic GPI/Tally interface with the Unity Intercom system. **Unity Intercom Tally License** – This enables the Unity Intercom Server to receive external tally input from a video mixer. Unity Intercom Server provides both Preview and Program tally if the connected video mixer supports this feature.

Unity Intercom Online Status GPIO License – This enables an external relay closure device (available separately) to be triggered each time a user logs in to the Unity Intercom system remotely. Great for external LED or incandescent 'online' indicators.

**Unity Intercom Advanced Program Feed License** – Allows Unity Intercom clients to select individual program feed sources and optionally assign them to left, right or a combination of both ears while using a headset. Helps keep normal communication traffic separate from program feed audio resulting in greater comprehension.

**Unity Intercom Expanded Channels and Groups** – By default, Unity Intercom allows you to configure up to 6 channels and one group. This license allows you to configure up to 64 groups and 128 channels.

<u>Note:</u> If you've purchased a Unity Intercom Max User license, the max number of

During trial mode operation, the Unity

channels as you like. When trial mode expires, the system will roll back to 6 channels and one group maximum.

Intercom server will allow you to

configure as many groups and

Note:

**Unity Intercom User Licenses** – Add-on licenses are available in 2, 5 and 10 user quantities and can

users that can be configured is unlimited. However there is a practical limit on the number of users that can be configured, depending on CPU speed and actual intercom usage. be purchased up to a maximum of 63 users. Any number of users can be created in the Unity Intercom Server but you can only enable the number of users that you have licensed.