

# **Remote Client**

## **User's Guide**

### **Revision 1.0**

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# 1 INTRODUCTION

This document describes how to use the OCT6100 **remote\_client.exe** application. The Remote Client is a PC application that runs on Windows 2000 and above.

The Remote Client is a debug application intended to monitor the OCT6100 internal chip activity. The following are some of its main features:

- ✓ Real-time display of the internal state of the chip.
- ✓ 4-port capture and recording of the chip's internal activity (dump feature).
- ✓ Command-line interface
- ✓ Remote connection to target using UDP/IP network.
- ✓ Fast and efficient means for Octasic to provide response to voice quality issues.

## 2 REQUIREMENTS & VERSIONS

In order to use the Remote Client application, the target system must have a Remote Debugging process implemented. This process consists of a separate process or thread that sends/receives UDP packets and passes them to the OCT6100 API.

Creating this process is simple and Octasic can provide assistance with this implementation. For more information, please refer to the Remote Debugging Application Note (Octasic literature number **OCT1000AN8001**) and the OCT6100 API (Octasic literature number **OCT6100AS5000**).

This version of the Remote Client User's Guide is applicable for Remote Client versions 01.04.00 and later.

### 3 GETTING STARTED

- 1) Ensure that the OCT6100 is running and at least one channel is open.
- 2) Ensure that there is IP communication between the monitoring computer (where the Remote Client is running) and the target system.
- 3) Execute the Remote Client application on a PC and enter the IP address (and UDP port if not using 50010) of the target system.
- 4) Once the Remote Client is connected to the target system, you should see "CONNECTION SUCCESSFUL" and then lines of text will start to scroll on the screen. Otherwise, the application exits.
- 5) Once the Remote Client has properly started, you must choose the active channel to monitor. Press 'c' and then enter the number of the channel (0 to 671 or 0 to 511). The field "ch=" should change to reflect the newly selected active channel. The default channel is 0.
- 6) Once this is done, the application's configuration is completed and all the information being updated on the screen is that of the selected active channel.

## 4 HOW TO READ DEBUG DATA

Once the Remote Client is communicating properly to the OCT6100 chip, lines of text will begin scrolling onto the screen (when running in Interactive Mode).

### 4.1 Typical line output

A typical line looks like the following:

```
028FA;0;ch=0;rcm=0;afc=0:0:0;td=0:0:0;off=207:209:20D;  
er=-14:-13:-12;epc=07:1B:28;rin= -6: -6: -6;sin=-21:-18:-18;bgn=-44:-32:-28;
```

All fields are separated by semi-colons.

Some fields show 3 numbers separated by a colon. These three values correspond to 3 different channels. The channel with the minimum value is on the left, the active channel is in the middle, and the channel with the maximum value is on the right. This allows monitoring of the minimum and maximum for the whole device, while monitoring the current active channel.

For example, the following is indicated in the Remote Client:

```
er=-14:-13:-12
```

This means that the current channel has an ERL of -13. We also know that the channel with the lowest ERL in the whole device is at -14. The channel with the highest ERL in the whole chip is -12.

### 4.2 Description of fields

#### 4.2.1 *Timestamp field*

The furthest field on the left represents a timestamp in half seconds since the chip has been booted. This number is in Hex format.

#### 4.2.2 *Error field*

The next field is an internal error field. A value different from 0 indicates that a misbehavior has been detected that may be caused by various factors. If such an error is detected, please contact Octasic Support as there might be a problem with the setup.

#### 4.2.3 *Active channel field (ch)*

The **ch** field shows the current active channel. It should reflect what you have selected as the active channel (see 5.1.1).

#### 4.2.4 *Mode field (rcm)*

The **rcm** field shows whether the Remote Client is in light mode (**rcm**=1) or heavy mode (**rcm**=0). For more information, please refer to section 5.1.3.

#### **4.2.5 Adaptive Filter field (*afc*)**

The **afc** field provides the status of the channel, and uses the following numbers:

- 0: channel active
- 1: ht freeze is on
- 2: ht reset is on
- 3: channel is in bypass mode (transparent)

#### **4.2.6 Tone disabler field (*td*)**

The **td** field returns the 2100Hz with or without phase reversal detection field. If it is 1, a 2100Hz has been detected. The tone disabler must be enabled for this field to be valid.

#### **4.2.7 Offset field (*off*)**

The **off** field indicates the offset of the echo point in samples (125 us frames).

#### **4.2.8 ERL field (*er*)**

The **er** field indicates the erl (echo return loss) of the echo point found, in dBs.

#### **4.2.9 Echo point changes field (*epc*)**

The **epc** is the number of times the echo canceller has changed its echo model since its boot-up. (When the inputs are receiving idle code, the epc may continue to increment, which is normal).

#### **4.2.10 Energy level fields (*rin, sin, bgn*)**

The **rin**, **sin**, and **bgn** fields respectively indicate the energy of the Rin, Sin, and inserted comfort noise signals.

## 5 USAGE

The Remote Client can be run in two modes: interactive and non-interactive.

### 5.1 Interactive Mode

When running in Interactive mode, the debug data is constantly updated in the Remote Client window. This is useful if you wish to monitor the chip in real-time.

The following commands are available in Interactive Mode:

- 'c': Selects the active channel.
- 'd' or 'D': Performs dump of the active channel. Please see the "Dumping Files" section.
- 'm': Switches between light and heavy mode.
- 'q': Exits the Remote Client application.
- 'h': Help menu.

#### 5.1.1 'c' command

Selects the active channel. This should be the first action to be done after the Remote Client is executed.

#### 5.1.2 'd' or 'D' command

Performs dump of the active channel.

'd' : Dump for up to 128 seconds. It can also be less depending on how long the Remote Client and chip have been running, the time since the last dump, or if the firmware supports 128 seconds.

'D' : Dump for the last 16 seconds or less depending on how long the Remote Client and chip have been running or the time since the last dump.

#### 5.1.3 'm' command

Switches between light and heavy mode. The default is light mode. Use heavy mode when requested by the Octasic Support agent.

#### 5.1.4 'q' command

Exits the Remote Client application.

#### 5.1.5 'h' command

Help menu. Displays the commands available.

#### 5.1.6 Example

The following steps are typical when starting the Remote Client in Interactive Mode:

- 1) Start the Remote Client from a command prompt.
- 2) Once the Remote Client has properly started, press 'c' to select the appropriate channel. The field "ch=" should change to reflect the newly selected active channel. The default channel is 0.
- 3) Once this is done, the application's configuration is completed and all the information being updated on the screen is that of the selected active channel.

## 5.2 Non-Interactive Mode

The Remote Client can be used in a Non-Interactive mode using command line arguments. This mode is especially useful when performing regression tests where the application could be run without waiting for user input.

The usage is as follows:

```
remote_client <ip_address>[:port] <debug_channel_number> [-c|-d|-D|-h]
```

where:

- '-c': Selects the active channel (passed as argument) and exits the application.
- '-d' or '-D': Immediately performs dump of the active channel and exits the application.
- '-h': Prints the command line help menu and exits the application.

For a more detailed description of each command, please refer to section 5.1.

### 5.2.1 Example

The following steps are typical when starting the Remote Client in Non-Interactive Mode:

- 1) Start the Remote Client from a command prompt.
- 2) If the user wishes to select channel 3 as the active channel and quit the Remote Client application, the following command line arguments would be used:

```
D:\RC>remote_client.exe 127.0.0.1 3 -c
```

The Remote Client will exit, but the OCT6100 firmware continues to monitor the device, recording the active channel information.

- 3) When the user is ready to dump (in this example, the last 16 seconds) on the active channel in Non-Interactive mode, the following command line arguments would be used:

```
D:\RC>remote_client.exe 127.0.0.1 3 -D
```

The Remote Client application connects to the chip and immediately dumps the last 16 seconds of monitoring data to the hard drive. Once again, the Remote Client will exit, but the monitoring continues on the device, allowing the user to dump any number of times.

## 6 DUMPING FILES

Depending if Interactive or Non-Interactive mode is selected, the appropriate command should be used for each step below.

- 1) Select the desired active channel.
- 2) Make sure that the channel is **not** in powerdown mode (afc=3).
- 3) Use 'd' or 'D' option to start dumping the data for the active channel.
- 4) After a couple seconds, six files are recorded on the local hard disk:

oct61xx_support.bin:	This file must be sent to Octasic to receive support for the OCT61XX.
rin_Mu_law.pcm:	Rin in G.711 u-law (or A-law)
rin_Mu_law.wav:	Rin in G.711 u-law, wave header (or A-law)
rin_sin_16bit_little_endian.pcm:	Rin Sin stereo file 16 bits little endian file.
sin_Mu_law.pcm:	Sin in G.711 u-law (or A-law)
sin_Mu_law.wav:	Sin in G.711 u-law, wave header (or A-law)
log.txt:	Debug session log.

## 7 EXTRACTING DUMP FILES

When a dump is performed using the OCT6100 API functions (i.e. Oct6100DebugGetData), the Remote Client application can be used to extract the input files from the dump file (see section “6 Dumping Files” for the list of input files). Execute the Remote Client with the dump file as an argument. For example:

```
D:\RC>remote_client.exe oct61xx_support.bin
```

## 8 REVISION HISTORY

Version	Date	Changes
1.0	October 2005	New document

For more information on this or other products visit our web site: <http://www.octasic.com>

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