



ITTIAM- WMAPRODEC -UG

User Guide

Document Number	ITTIAM- WMAPRODEC-UG
Version	1.0
Date	March 10, 2011

Ittiam Systems (P) Ltd,
The Consulate, 1 Richmond Road,
Bangalore 560 025, India

Notice

This document contains information, which is the proprietary property of Ittiam Systems. This document is received in confidence and its contents cannot be disclosed or copied without the prior written consent of Ittiam Systems. Ittiam Systems retains the right to make changes to this document at any time, without notice. Ittiam Systems makes no warranty for the use of this document.

Ittiam Systems reserves the right to make changes to its products or discontinue any of its products or offerings without notice.

Ittiam warrants the performance of its products to the specifications applicable at the time of sale in accordance with Ittiam's standard warranty.

Revision History

Version	Date	Changes
1.0	March 10, 2011	Original

Copyright © 2003-2010, Ittiam Systems (P) Ltd

1. Integration to Android

This release package contains the Ittiam wmapro decoder, integrated to TI's D-OMX core in Android. This document will explain the steps on integrating the wmapro decoder to Android.

- 1) Create a folder for audio codecs inside the domx folder(if it is not present already).

```
mkdir <android_bsp>/mydroid/hardware/ti/omx/ducati/domx/audio/
```

- 2) Copy Ittiam's OMX IL component to audio source directory in D-OMX folder.

```
cp -rf <rel_dir>/wmapro_dec_ittiam  
<android_bsp>/mydroid/hardware/ti/omx/ducati/domx/audio/
```

- 3) Register the new codec to D-OMX core, by adding the below line to
*tComponentName[MAXCOMP][MAX_ROLES] table defined in
hardware/ti/omx/ducati/domx/system/omx_core/src/OMX_Core.c file

```
{"OMX.ITTIAM.WMAPRO.decode", "audio_decoder.wmapro", NULL},
```

- 4) Register the new codec to the Stagefright framework by adding the below line to
CodecInfo kDecoderInfo[] table defined in
mydroid\frameworks\base\media\libstagefright\OMXCodec.cpp file

```
{ MEDIA_MIMETYPE_AUDIO_WMAPRO, "OMX.ITTIAM.WMAPRO.decode" },
```

- 5) Look for the following code fragment in
mydroid\frameworks\base\media\libstagefright\OMXCodec.cpp file:

```
else if (!strcmp(componentName, "OMX.TI.", 7)) {
```

and replace it with the following:

```
else if (!strcmp(componentName, "OMX.TI.", 7) ||  
!strcmp("OMX.ITTIAM.", componentName, 11)) {
```

- 6) Add the below line to hardware/ti/omx/ducati/Android.mk, to include the codec while building the Android filesystem

```
include $(TI_DOMX_TOP)/audio/wmapro_dec_ittiam/Android.mk
```

Now when the Android filesystem is built Ittiam's OMX IL component gets generated at

```
mydroid/out/target/product/<product_name>/system/lib/libOMX.ITTIAM.  
M.WMAPRO.decode.so
```

2. Reference Integration

For easier validation of the Ittiam codecs into Android framework, we have shared changed files from the Android filesystem.

This is shared in android_src release package. Changes done by Ittiam are contained within the comments

```
// Ittiam Changes Starts :: <Component name>
/* Changes */
// Ittiam Changes Ends
```

WMAPRO related changes are contained within the comments

```
// Ittiam Changes Starts :: WMAPRO decoder
/* Changes */
// Ittiam Changes Ends
```

Refer to ITTIAM-ANDROID-UG.pdf for information on the codec specific changes mentioned above.

3. Raw file format

The WMAPRO Decoder also accepts raw file as input. The format of the raw file is as given in the table below. The ASF parser is expected to feed the data in this format.

Field name	Size (bytes)	Remark
Type-Specific Data	28	“Type-Specific data” is present as a part of the “Stream Properties object” in the ASF stream. This data should be provided by the ASF parser. This is required by the decoder to get the Format Tag, Number of Channels, Samples Per Second, Average Number of Bytes Per Second, Block Alignment, Bits Per Sample and EncodeOptions. If your ASF parser provides these information separately repacking them in the format of “Type-Specific Data” is a trivial task. The format of “Type-specific data” is defined in ASF specification (Openly available).
ASF_Packet	packet_size	ASF packet 1
ASF_Packet	packet_size	ASF packet 2
Continued till end-of-file...	packet_size	ASF packet n