
Technicolor UCW4026MCS Integrator's Manual



FEEL THE WONDER

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1. Introduction

The UCW4026MCS is a setback tuner box intended for use with the DirecTV Advanced Entertainment Platform (AEP) by AT&T.

It will tune both RF signal (QAM) and multicast IPTV streams.

In addition to the STB the unit ships with a remote control, power supply, and HDMI cable.

The UCW4026MCS ships with a basic set of applications or APK's. DirecTV provides automated product updates, additional APK's, customization, monitoring, and control using the DirecTV Advanced Entertainment Platform cloud services. To access these services, the UCW4026MCS must be associated with a registered COM51 on the property. Please work with your distributor in order to register your COM51 to the AT&T AEP cloud prior to UCW4026MCS installation. Upon installation on a COM System with a properly registered and configured COM51, the UCW4026MCS will automatically connect to the AEP cloud via its network connection and will be automatically associated with the property.

1 COM51 Setup for Use with UCW4026MCS

1.1 Verify all COM system software is current.

Visit <https://www.technicolor.com/distribute/home-experience/mcs-document-library> for the latest available software, and refer to the COM3000 Integrator's Manual for instructions to update these components.

1.2 Configuring the QAM for the UCW4026MCS

The UCW4026MCS utilizes RF channel 23 to receive configuration data, guide data and to receive software updates when available.

RF channel 23 **must always** be the first RF channel in the lineup corresponding to QAM index 1, as shown below in Figure 1 - QAM20 output.

Mega-Bits Per Second

$$\text{Port} = \text{QamChannel} * 16 + \text{QamSubChannel}$$

	PortBase	Chan	-1	-2	-3	-4	total
Qam1	16	23	4.5	4.3	0.0	0.2	9.1

Figure 1 - QAM20 output

Ports 18 and 19, channels 23-2 and 23-3 are disabled when sending a software update. Software updates should be infrequent and can be scheduled during off-peak hours, but it is our recommendation to place lower priority channels on these carriers as the video service may be interrupted for a short time during a software update event.

1.3 Set Pro:Idiom Mobile Site Key

The UCW4026MCS uses Pro:Idiom Mobile (PIM) encryption. Each site will require a unique PIM key be entered in all COM 46/51 cards.

The key must consist of 64 hexadecimal characters:

Numbers 0-9 and/or Letters a-f

Example Key (do not use this on your system):

0123456789abcdef9876543210fedcba0123456789abcdef9876543210fedcba

Technicolor recommends using a site like:

<https://www.browserling.com/tools/random-hex>

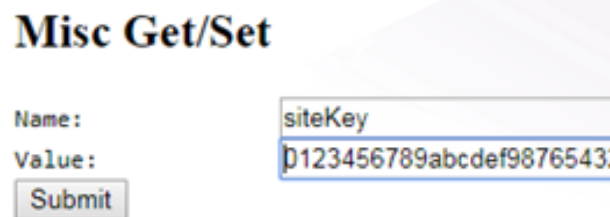
to generate the 64 hexadecimal key. Save the key to a file for future reference.

To enter the Pro:Idiom Mobile (PIM) key navigate to: Discover Page > Click Channel#> Advanced Edit > Misc Get/Set as shown below in Figure 2- COM51 Misc Get Set.

Enter Name: siteKey (case sensitive)

Enter the PIM Key in the Value field of the Get/Set section

Click Submit



The screenshot shows a web form titled "Misc Get/Set". It has two input fields: "Name:" with the value "siteKey" and "Value:" with a long hexadecimal string. A "Submit" button is located below the "Value:" field.

Name:	siteKey
Value:	0123456789abcdef9876543210fedcba0123456789abcdef9876543210fedcba

Submit

Figure 2- COM51 Misc Get Set

All Pro:Idiom Encrypted streams will include Pro:Idiom Mobile keys using the specified PIM key.

Repeat this process for every COM51 or COM46 in the system.

1.4 GUIDE.XML

The UCW4026MCS will require a GUIDE.XML and a CONFIG.XML file from a COM51 in order to properly operate in any capacity in either a QAM or IP installation.

Both the GUIDE.XML and the CONFIG.XML should be generated using the same COM51 card in the system. Generally, it is good practice to select the card in slot 1 for this responsibility, but it is not a requirement. Whichever card is selected to originate the GUIDE.XML and CONFIG.XML will also be used to send any software updates to the UCW4026MCS devices.

Configure Guide.XML according to standard EPG instructions. You can click EPG->Guide.xml to configure the system with the list of channels currently playing.

In the Mode section enter 13 as shown below in Figure 3 - EPG Guide.XML.

Electronic Program Guide Display

DestIP:	<input type="text" value="1.2.3.4"/>	
DestPort:	<input type="text" value="0"/>	
TimezoneOffset:	<input type="text" value="5"/>	Pacific=8;Mountain=7;Central=6;Eastern=5
TimezonePsip:	<input type="text" value="5"/>	
Mode:	<input type="text" value="13"/>	0=normal; 1=ignoreDST; 2=Welcome screens (welcome#.bmp); 3=guide.xml; 13=Android
LogoTftpServerIP:	<input type="text"/>	
LogoFilename:	<input type="text"/>	170x60 24bpp bmp bitmap file

Figure 3 - EPG Guide.XML

For a QAM deployment, the DestIP would be 1.2.3.4 as shown in Figure 3 above.

For an IP Multicast deployment, the DestIP will be 226.2.3.4. This change affects the guide.xml, config.xml, command.xml, and software updates. Be sure this multicast ip address is not in use on FTG channels.

Allow a few minutes for the COM51 to download and format the data for this information to be available to the UCW4026MCS.

WARNING: If you use a different COM51 to generate a scrolling guide (mode=0) then you must set either the chassis or port to -1 for all channels on the COM51 generating the scrolling guide. Otherwise, the COM51 will generate PSIP data in addition to the scrolling guide. The PSIP data is broadcast on the same PIDs as the guide.xml, config.xml, command.xml, and software updates. While the system might still work, acquiring the guide.xml and obtaining software updates will be very problematic. Simultaneous operation of UCW4026MCS and PSIP data is not supported.

1.5 Set up CONFIG.XML

The CONFIG.XML file is used to send global information to a wide set of devices that are connected to the COM51. This includes network configuration data, device settings and software updates. The CONFIG.XML file also transmits the PIM key from the COM51 to the devices so that each device can playback video content. Without a CONFIG.XML file, PIM encrypted content is not viewable.

Navigate to the Android tab on the COM51 interface as shown in below in Figure 4 - Android Config.

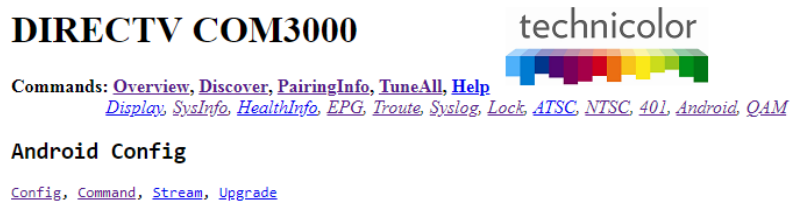


Figure 4 - Android Config

To set up a basic CONFIG.XML on the system, enter the text below in the config.xml as shown in Figure 5 - Android Config.xml.

```
<?xml version="1.0" encoding="UTF-8"?>
<configuration>
  <system>
</system>
</configuration>
```

Press Submit

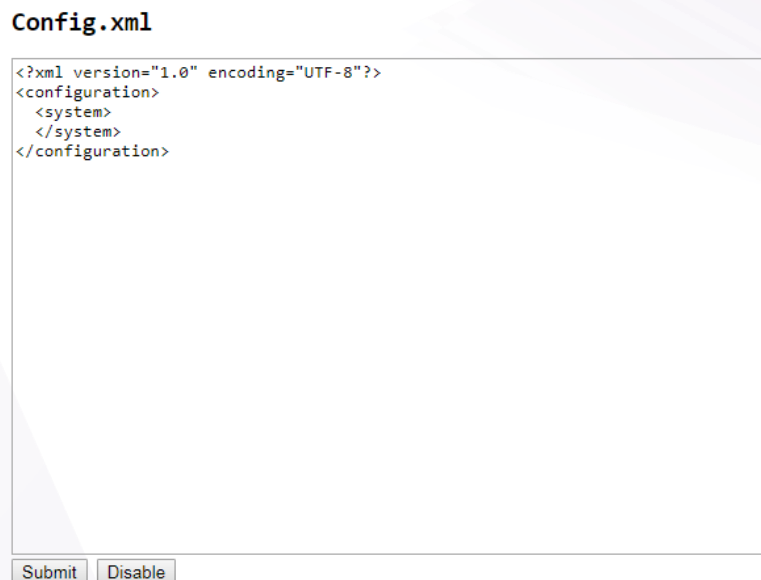


Figure 5 - Android Config.xml

1.6 Add Wi-Fi Configuration to the Config.xml

The UCW4026MCS can be configured to connect to the property Wi-Fi network.

The COM51 can send a Wi-Fi config file with SSID and Password information.

The SSID must be visible in the Wi-Fi network.

If there are multiple SSIDs for use by UCW4026MCS devices at the property, each UCW4026MCS will need to be manually programmed for network connection using the set top user interface. COM51 cannot be used to send Wi-Fi SSID and Password information in the case of multiple SSIDs.

Add the SSID name and Wi-Fi password to the text below and enter the Android Config section. Entry must be added between the <system> and the </system> statements as shown below in Figure 6 - SSID Config.

```
<?xml version="1.0" encoding="UTF-8"?>
<configuration>
  <system>
    <wifiSsid>ENTERSSIDName</wifiSsid>
    <wifiPassword>ENTERWi-fIPASSWORD</wifiPassword>
    <wifiSecureType>WPA</wifiSecureType>
  </system>
</configuration>
```

Figure 6 - SSID Config

Click Submit

2 Software Updates

Technicolor and AT&T are developing processes that will automate software updates, so that all deployed UCW4026MCS devices that are connected to a monitored COM51 will receive and install updates without any user intervention. You may refer to the below instructions should a manual update be necessary.

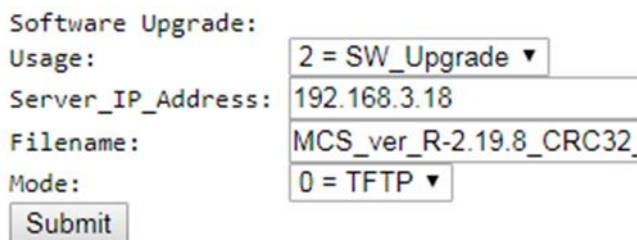
NOTE: For QAM deployments, the UCW4026MCS will receive software updates from the COM51 on RF channel 23. Video service on the sub-channels (23-2 & 23-3) will be affected during the software update.

2.1 File Upload

Step One: Upload Software

UCW4026MCS software is in a compressed .zip file. The filename must not be changed.

Using the Browser Upload function available in the PairingInfo page, upload the file to the COM51 card generating the GUIDE.XML and CONFIG.XML files as shown below in Figure 7 - Software Upload.



Software Upgrade:

Usage:	2 = SW_Upgrade ▾
Server_IP_Address:	192.168.3.18
Filename:	MCS_ver_R-2.19.8_CRC32_
Mode:	0 = TFTP ▾

Figure 7 - Software Upload

2.2 Using the Upgrade Feature

After Step 1 above a user may simply click on the Upgrade button. An alternative manual process is described below.

2.3 Manual method (alternate method)

Step Two: Modify the Config.xml

Navigate to the Android tab of the COM51 and click on the config option.

Add the software file name and enter the following text in the Config.xml.

For Update over QAM

```
<?xml version="1.0" encoding="UTF-8"?>
<configuration>
  <system>
    <systemSoftwareUpdate>QAM='23' FileName='enter_software_file_name'</systemSoftwareUpdate>
  </system>
</configuration>
```

Click

For Update over IP

```
<?xml version="1.0" encoding="UTF-8"?>
<configuration>
  <system>
    <systemSoftwareUpdate>IP='226.100.0.203:6003'
    FileName='enter_software_file_name'</systemSoftwareUpdate>
  </system>
</configuration>
```

Click

Step Three: Send a COMMAND.XML

While information that a software update is available for the UCW4026MCS is sent via the CONFIG.XML, the devices do not constantly check the CONFIG.XML. In order to “refresh” the CONFIG.XML, you can send a COMMAND.XML file.

Navigate to the COMMAND tab and simply press SUBMIT. A general command is automatically generated and sent to all the UCW4026MCS to refresh the CONFIG.XML file. Once the COMMAND is sent, the UCW4026MCS is ready to receive the update file. For a QAM system, the unit will go to a black screen with the display “Software System Update”. For an IP system, video will continue to play without interruption.

Step Four: Stream the Update

Click on “Stream” in the Android tab on the COM51. This will initiate the file transfer of the software file currently in the Browser Upload from the COM51 to the UCW4026MCS. For a QAM installation, you can verify progress on the display as the file is being received. Video will continue to be available for an IP deployment. When completed, the UCW4026MCS will reboot.

All the UCW4026MCS devices that received the update will ignore any CONFIG.XML message to update to a new image, yet some devices may not have adequate time or completely received the update file. Any device that did not update yet continues to see the update file available in the CONFIG.XML may display the “System Software Update” message if in a QAM deployment. You can choose to continue streaming the update, or you may remove the systemSoftwareUpdate text from the CONFIG.XML.

2.4 Software Update via USB Flash Drive

To update the UCW4026MCS via a USB flash stick, copy the software image to the USB flash stick.

Insert the USB flash stick into the UCW4026MCS. Remove power from the UCW4026MCS, then using a paper clip, press and hold the reset button as shown below in Figure 8 - Reset Button, while re-apply power. Continue to hold the reset button for 10 seconds.



Figure 8 - Reset Button

A menu will then appear that will permit you to upgrade the software and select a file from the USB stick. Choose “Apply update from USB” as shown below in Figure 9 - Android Recover Screen and then select the filename.

```
Android Recovery
Technicolor/ucw4026mcs/ucw4026mcs
8.0.0/OTT1.180612.001/2.19.8-050918
user/release-keys
Use volume up/down and power.
Reboot system now
Apply update from USB
Wipe data/factory reset
Power off
```

Figure 9 - Android Recover Screen

After updating the code, it is also advisable to select “Wipe data/factory reset”.

Next remove the USB stick and select “Reboot system now”.

3 Admin Settings

To access the UCW4026MCS Admin Settings, use the remote control to press and hold the Reverse (<<) and GUIDE buttons simultaneously for 4 seconds (Figure 10 - Remote Control) to display the pin entry screen (Figure 11 – Admin Settings Pin Entry):

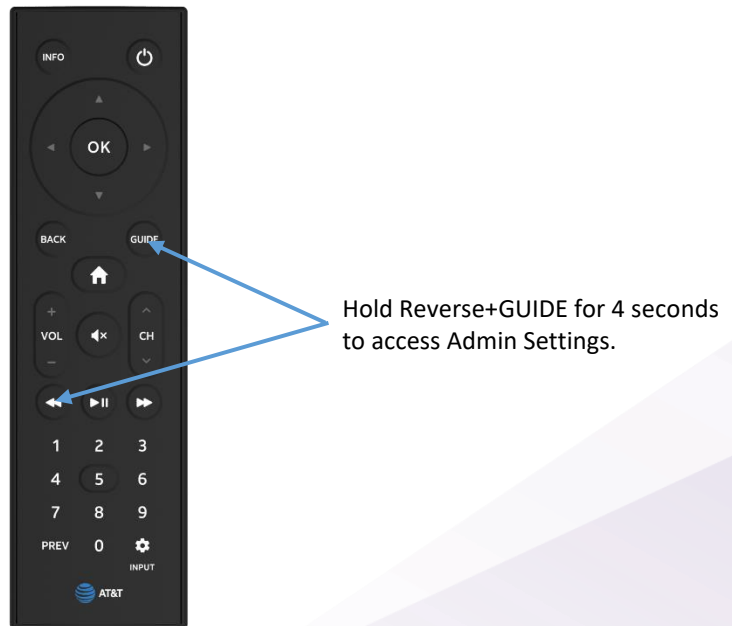


Figure 10 - Remote Control

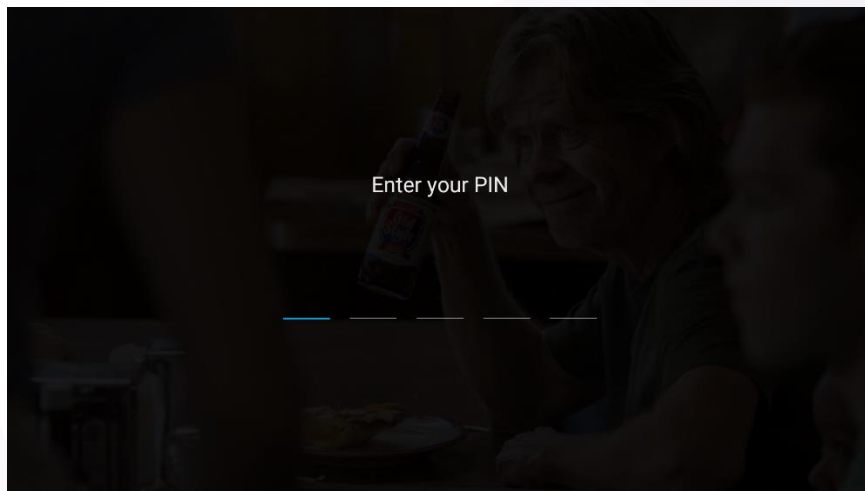


Figure 11 – Admin Settings Pin Entry

Using the remote, enter the pin to access Admin Settings. The default pin from the factory is 75309. The Admin Settings menu will then be displayed as shown in Figure 12 – Admin Settings.

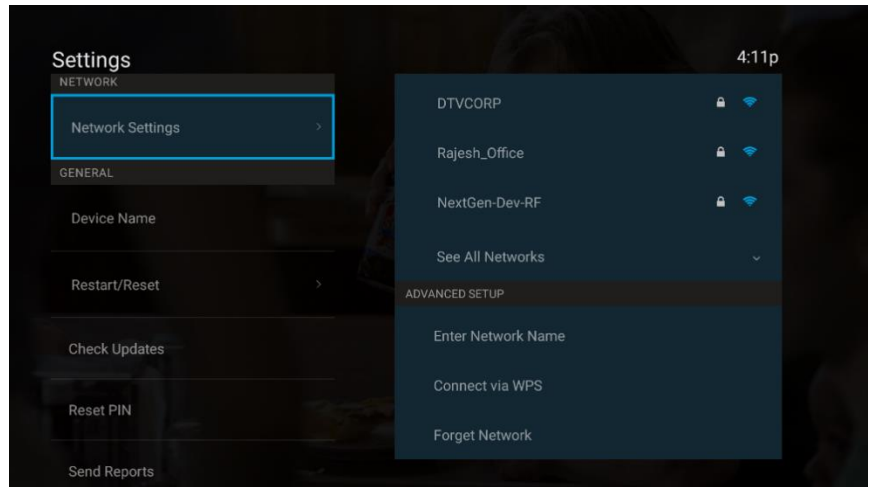


Figure 12 – Admin Settings