

The Ultimate Digital Studio II and Satellite Programming

On Air Digital USA, a division of On Air Worldwide Media, Inc.
13370 Branch View Lane, Suite 120
Dallas, Texas 75234

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Overview

This supplement outlines the procedures necessary to prepare UDS II for the playback of programming delivered by satellite.

This supplement assumes that the user has some familiarity with UDS II breaknote syntax (as explained in Chapter Three of *The Ultimate Digital Studio II User's Manual*), and how these breaknotes are included in the music-scheduling software used to generate schedules for UDS II. If the user has not already done so, he or she should read “The Breaknote Language” in Chapter Three of *The Ultimate Digital Studio II User's Manual* before continuing.

This supplement uses the terms “satellite” and “network” interchangeably to describe programming delivered by a satellite programming provider.

Basic Requirements

To successfully integrate satellite programming with UDS II, you must have the following:

- ◆ UDS II with A4000 audio controller, with one free input to be used as the satellite programming input.
- ◆ Computer Concepts DCS digital audio hard drive storage.
- ◆ A satellite receiver capable of generating contact closures for use with automation systems (if you are using a satellite-delivered programming service with “floating” format clocks with no precise time for commercial breaks).

Satellite Format Basics—a Sample Format

Most satellite-delivered programs consist of the following elements:

- ◆ Core programming material
- ◆ Mandatory and optional commercial breaks, to be filled by the affiliate
- ◆ Localized voice elements (also referred to as “liners” or “MagiCalls”), started at unscheduled times by the satellite receiver

To allow affiliates to automate the playback of satellite-delivered programming, most satellite providers offer switching equipment which decodes information from the satellite receiver. This information is interpreted by the switching equipment to provide contact closures (sometimes referred to as cues, pulses, or signals) which can be used to control automation equipment.

Before software configuration or hardware installation can occur, it is necessary to analyze the format of the satellite-delivered programming, identifying the contact closures needed for liner playback and return from commercial breaks.

Satellite Format Basics—a Sample Format, continued

Figure 1 illustrates a typical satellite-delivered programming format. The circled numbers refer to the six contact closures available from the satellite receiver (referred to as “cues” by this satellite provider), showing locations where these contact closures occur during the hour.

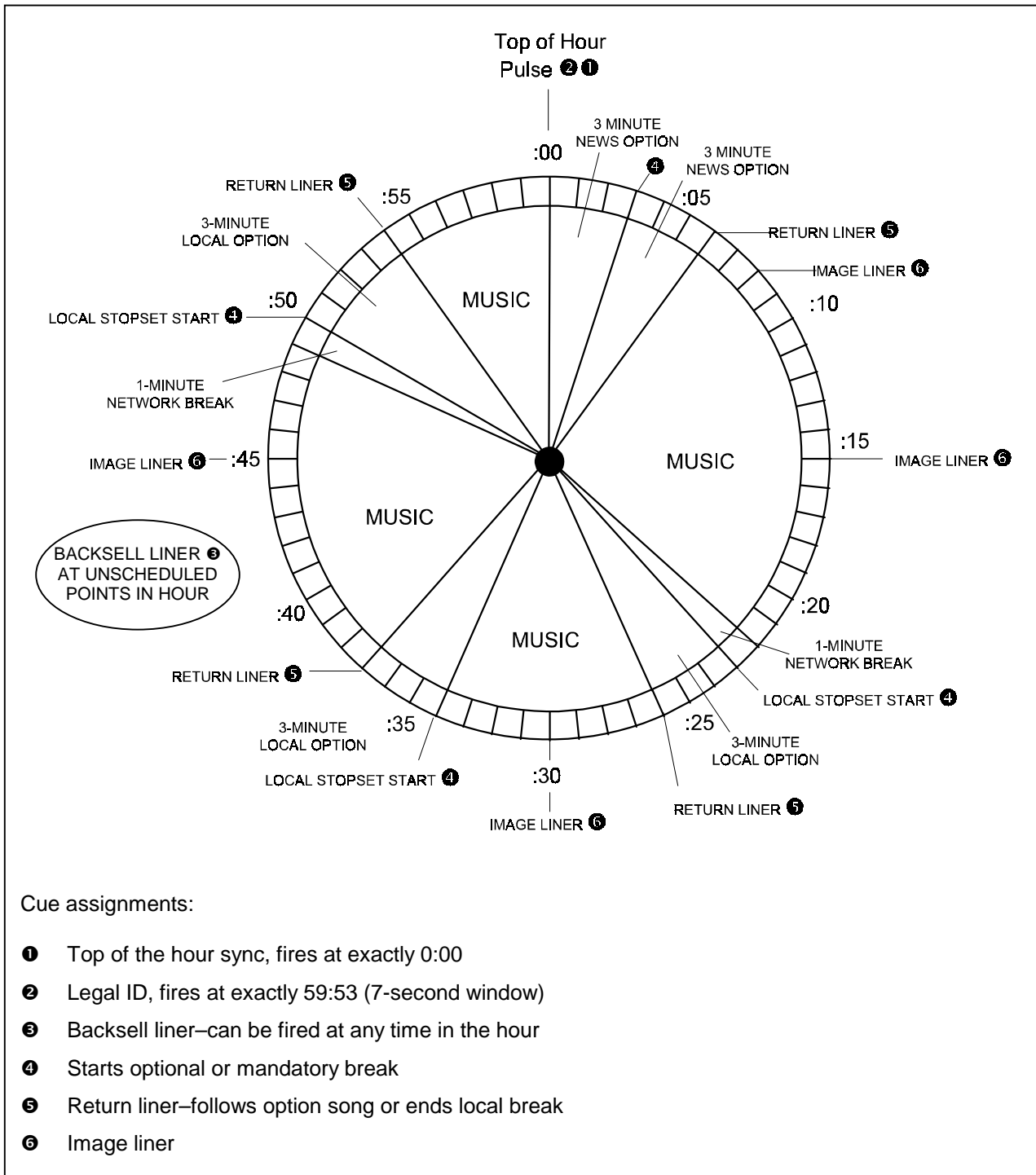


Figure 1: Example satellite format clock

Satellite Format Basics—a Sample Format, continued

A systematic analysis of the format clock shows the following:

At *exactly* 59:53 each hour, the satellite receiver fires a pulse on closure number two, to play the station legal ID.

At *exactly* the top of each hour (00:00), the satellite receiver fires a pulse on closure number one, to provide a method of clock synchronization. The affiliate has the option of inserting a three-minute newscast at the top of the hour or airing music from the satellite provider.

At *exactly* 00:03, the satellite receiver fires a pulse on closure number four. This closure can be used by the affiliate to insert additional local programming, if desired. If the affiliate does not wish to insert local programming, he or she may elect to continue carrying programming from the satellite network.

At *exactly* 00:06, contact closure five occurs, playing a return liner, used to provide local identification when either returning from a break or an optional song.

At *approximately* 15, 30, and 45 minutes past the hour, contact closure six is fired, to play a station liner during the segue of two songs.

At *approximately* 23, 34, and 50 minutes past the hour, contact closure four is fired, to allow affiliates to play local commercials. At the end of each three-minute window, contact closure five is fired, to play a return liner, returning to satellite programming.

At *random times* throughout the hour, contact closure three is fired, to play a localized backsell liner.



Please note that this is a sample clock only, and is not representative of all satellite formats. Please consult your affiliate manual for exact information regarding your satellite format.

Satellite Format Basics—a Sample Format, continued

From the preceding analysis, the following summary can be made:

- ◆ Contact closure one from the satellite receiver is used hourly for clock synchronization.
- ◆ Contact closure two from the satellite receiver is used to step away from satellite programming and fire the legal ID.
- ◆ Contact closure three from the satellite receiver is fired at random times to play backsell liners.
- ◆ Contact closure four from the satellite receiver is fired to step away from satellite programming and play local commercial content.
- ◆ Contact closure five from the satellite receiver is fired when returning to satellite programming from local commercials to play a return liner.
- ◆ Contact closure six from the satellite receiver is fired near each quarter hour (except the top of the hour) to play an image liner during a music sweep.

In general, the contact closures described previously can be grouped into three categories:

1. **Contact closures used to switch away from satellite programming** to locally-originated programming, such as station identification, commercial breaks and local news (closures two and four in the previous example).
2. **Contact closures used to play unscheduled events *without* switching away from satellite programming.** These include pre-recorded localization material such as backsell, return and image liners (closures three, five, and six in the previous example).
3. **One contact closure for time clock synchronization** that occurs at the top of each hour (contact closure one in the previous example).

Available Connections to UDS II

UDS II provides full connectivity to satellite receivers to allow automation of satellite programming. An overview of connections to UDS II follows, with a more detailed description of satellite connections beginning on page 6.

Figure 2 on page 7 illustrates how UDS II can be connected to a satellite receiver, based on the sample format on page 2. A complete list of connections to the UDS II RS-422 card 25-pin D-SUB connector and the A4000 audio controller audio input connector can be found on pages 21 and 22, respectively.

Audio connections: Audio outputs from the satellite receiver must be connected to the 25-pin D-SUB connector on the A4000 input card used as the UDS II satellite source (See Figure 2 on page 7).

Pin 1: Left + input

Pin 2: Left – input

Pin 3: Right + input

Pin 4: Right – input

Pins 14 through 20, inclusive: audio ground

Satellite end-of-message (EOM) connection: Most satellite providers furnish a momentary closure (either an open-collector closure or a dry-contact relay closure) to signal the beginning of commercial breaks. This closure should be connected to the A4000 audio controller input connector to be used as the UDS II satellite source.

The A4000 audio controller EOM input is a standard TTL ground-switched closure, and is only active when the A4000 audio channel program input is ON. See Figure 2 on page 7.

Pin 13: End-of-message input

Pin 25: Digital ground

Note: Do not use the audio ground (pins 14-20 on the A4000 audio controller input connector) for contact-closure returns. Audio and digital grounds are maintained separately in the A4000 audio controller for optimum signal-to-noise performance.

Available Connections to UDS II, continued

Satellite liner connections: Closures for satellite liner playback are connected to the UDS II RS-422 card 25-pin D-SUB connector. The UDS II external control inputs are standard TTL, ground-switched inputs. Closures for satellite liners should be either dry contact closures or open-collector switches capable of switching standard TTL loads.

Satellite Liner Safety Interlock: If desired, a safety interlock can be provided, preventing liners from playing when the satellite channel is not on-the-air. This is accomplished by connecting the ground return from the satellite liner closures to the start relay on the A4000 audio controller input connector for the satellite network source (pin 12). A wire from pin 11 on the audio controller input connector is then routed to pin 25 (digital ground) of the UDS II RS-422 card connector, on the rear of the UDS II computer.

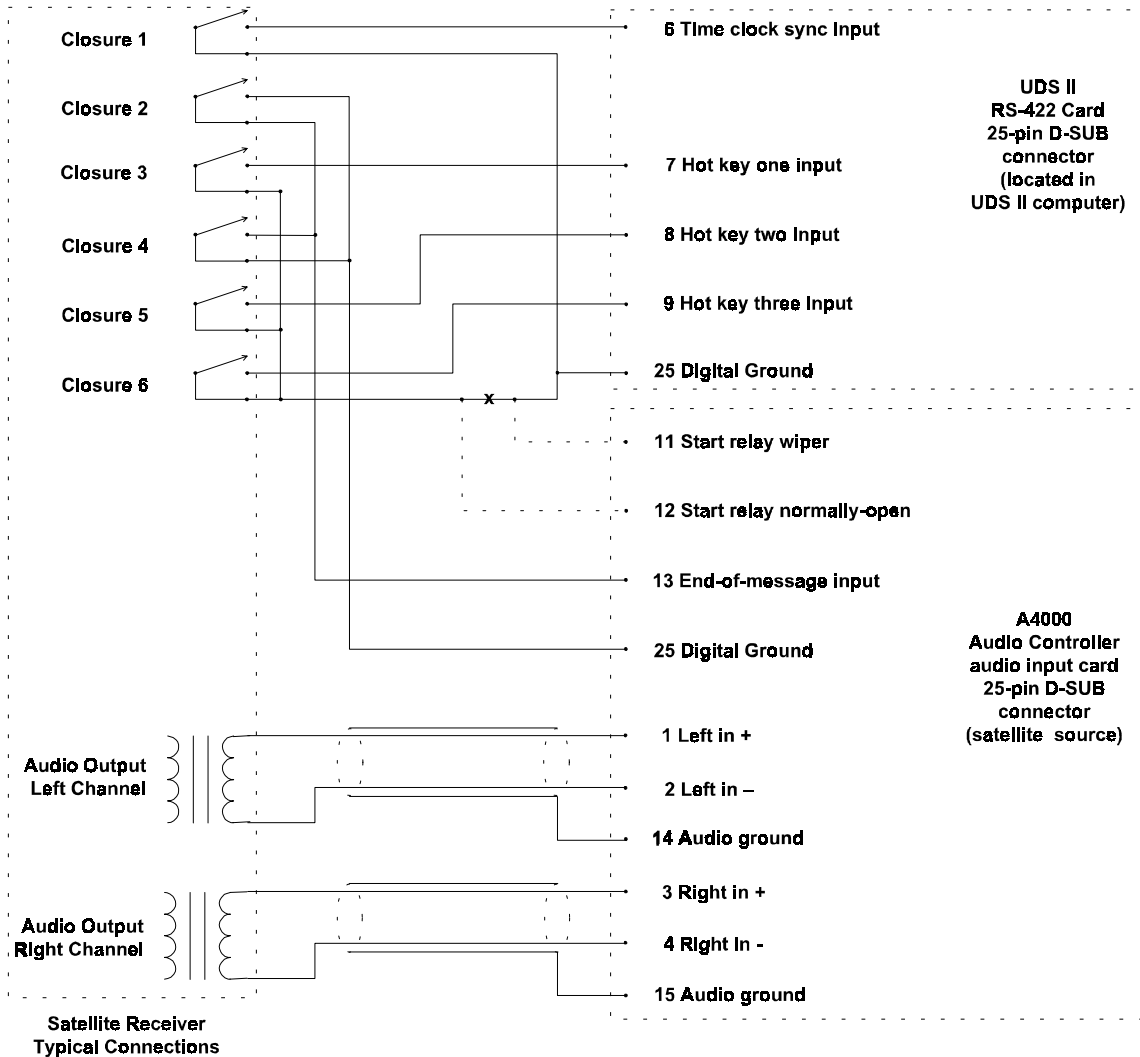
UDS II computer time clock synchronization: a contact closure is available to synchronize the UDS II computer clock to an external time standard. This closure appears on pins 6 (UDS II time clock sync input) and 25 (digital ground) of the UDS II RS-422 card.

Satellite Receiver Connections to UDS II

The contact closures from the sample satellite format must be connected to UDS II as follows. A sample interconnection diagram is provided in Figure 2 on page 7.

- ◆ Contact closure 1 from the satellite receiver is used to synchronize the clock in the UDS II computer to the satellite network. This contact closure is routed to the UDS II RS-422 card, pins 6 (time clock sync input) and 25 (digital ground).
- ◆ Contact closure 2 from the satellite receiver is used to play the legal ID during satellite programming. This closure is routed to the A4000 audio controller end-of-message input for the satellite program channel pins 13 (end-of-message input) and 25 (digital ground).
- ◆ Contact closure 3 from the satellite receiver is used to start backsell liners without switching away from the satellite network. This closure is routed to the UDS II RS-422 card, pins 7 (external hot key one) and 25 (digital ground).
- ◆ Contact closure 4 from the satellite receiver is used to signal UDS II to switch away from the satellite network and play local commercial breaks. This closure must be routed to the A4000 audio controller end-of message input for the satellite program channel (pins 13 and 25).
- ◆ Contact closure 5 from the satellite receiver is used to play return liners when returning from stop sets or optional fill songs, without switching away from the satellite network. Connect this closure to UDS II external hot key two (pins 8 and 25 on the UDS II RS-422 card).
- ◆ Contact closure 6 from the satellite receiver is used for image liners on the quarter-hour without switching away from the satellite network. Connect this closure to UDS II external hot key three (pins 9 and 25 on the UDS II RS-422 card).

Satellite Receiver Connections to UDS II, continued



Notes:

Contact closure 1 is used for UDS II time clock sync.

Contact closure 2 is used to play top-of-hour ID.

Contact closure 3 is used for backsell liners.

Contact closure 4 is used to advance UDS II at the end of satellite program segments (satellite EOM).

Contact closure 5 is used for return liners.

Contact closure 6 is used for image liners (quarter-hour sweeps).

All UDS II contact closure inputs are TTL-level, ground-switched inputs. Use with relay closures or open-collector closures only.

*To prevent satellite liners from playing during non-satellite hours, the ground connection for satellite liners may be routed through the start relay on the A4000 input card used as the satellite audio input.

Figure 2: Typical satellite receiver connections to UDS II

Preventing Hot Key Play During Non-Satellite Hours

To play liners during satellite programming, UDS II utilizes the remote-control hot key inputs on the UDS II RS-422 card. When a momentary closure is applied between the external hot key input and digital ground (pin 25), UDS II activates the A4000 audio controller input used for DCS audio and starts the cart specified in the active hot key list.

Remote control hot key inputs are always active when the UDS II software is running.

To avoid playing satellite liners when the satellite network is not on the air, the start relay on the A4000 audio controller input card can be used as an interlock, preventing satellite liners from playing unless the satellite network is on-the-air.

The contacts for this relay are accessible from the 25-pin D-SUB connector on the A4000 audio controller input card used as the satellite network audio input.

To use this feature, jumper JP1 on the audio input card used as the satellite source must be set so that the relay latches ON whenever that source is on-the-air. Instructions for setting jumpers on the A4000 input card begin on page 9. Figure 3, page 10 contains a pictorial diagram of the A4000 audio input card.


After properly configuring the jumper, the ground return for the satellite liners can be routed to pin 12 on the A4000 audio input card used as the satellite source. Pin 11 on the A4000 audio input card is now connected to pin 25 on the UDS II RS-422 card (digital ground), as shown in Figure 2 on page 7.

With the satellite liner common routed through the input card start relay, satellite liners will not play unless the satellite source is on-the-air, providing the following safeguards:

- ◆ Satellite liners will not play during non-satellite programming.
- ◆ Satellite liners, if fired early by the satellite provider, will not play over the ends of commercials.

A4000 Audio Controller Modifications

Important! The UDS II must be off-air, and all power must be removed from the A4000 audio controller before making the modifications outlined below.

 Instructions for removing and installing A4000 input cards may be found in Chapter Two of *The Ultimate Digital Studio II User's Manual*.

A4000 input cards are normally shipped with jumpers configured as follows:

- ◆ Audio inputs: balanced-bridging (10K ohm impedance), +4dBu input level for +4 dBu nominal output.
- ◆ Start relay operation: one-second momentary closure when source is switched to program (on-air) from off.

If the satellite receiver used with UDS II has transformer-balanced outputs and/or the start relay on the A4000 audio input card is to be used as an interlock to prevent liner play during non-satellite programming, jumpers should be changed on the audio input card as outlined below.

1. If UDS II is running shut the system down. From the UDS II main screen, press a \times .
2. UDS II prompts the operator for the password to exit the system (the default password is "exit"). Type the password and press e to shut down the UDS II.
3. Disconnect power to the A4000 audio controller.
4. Remove the A4000 audio input card that is to be used as the satellite input from the A4000 audio controller.
5. If it is desired to terminate the A4000 audio inputs for 600-ohm balanced operation, install pin jumpers at locations JP101 and JP201, as shown in Figure 3 on page 10.
6. If the start relay is to be connected for satellite liner interlock operation, move the jumper at location JP1 to pins two and three.
7. Re-install the A4000 audio input card. Re-apply power to the audio controller and re-start UDS II.

A4000 Audio Controller Modifications, continued

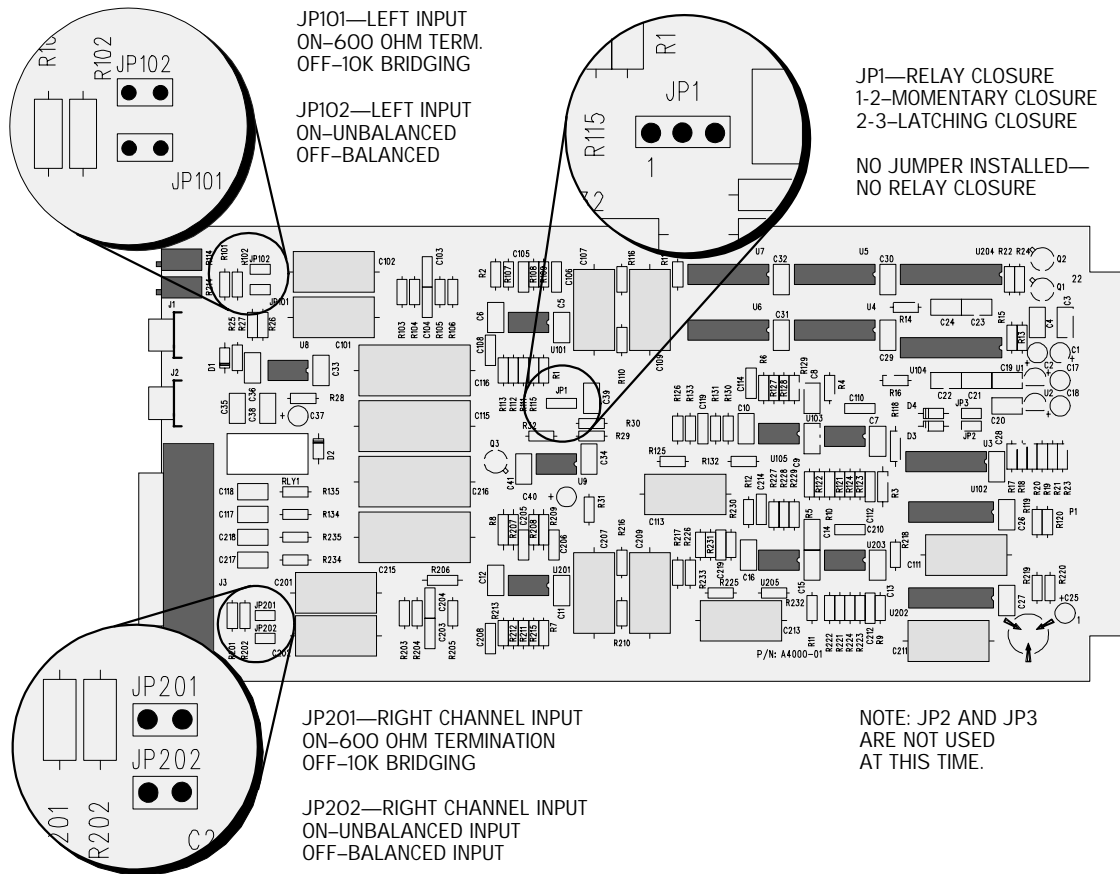


Figure 3: A4000 audio input card jumper settings

Prepare Liners for Satellite Use


Satellite liners are stored on the DCS, and played by the UDS II utilizing external hot key closures. If desired, multiple liners can be rotated under a single DCS cart number. See the Computer Concepts DCS instruction manual for more information concerning cart production.


Liners are assigned to specific contact closures using the UDS II hot key window. Once the Liners or ID's are loaded into the DCS, press **H** on the UDS II keyboard. Assign cart numbers to hot keys as you would assign them for any other hot key operation.

Remember, each hot key (one through zero) corresponds to a specific contact closure on the UDS II RS-422 card, as outlined in the following chart:

Hot Key Number	RS-422 Card Pin	Satellite Liners (from example clock on page 2)
1	7	ⓓ Backsell
2	8	ⓔ Return
3	9	ⓕ Image
4	10	Not used in this example.
5	11	
6	12	
7	13	
8	14	
9	15	
0	16	

Once you have completed entering hot key items, press **^** to save. Name the hot key list *SAT1*, *SAT2*, *SAT3*, and so on.

 Hot key lists to be used as satellite liners can be loaded automatically by placing breaknotes in the UDS II schedule. See page 13 for more information.

 For more information on hot key operation please see *The Ultimate Digital Studio II Users Manual*, Chapter Four.

Breaknotes and Your Music Scheduler

UDS II uses many of the same breaknotes for satellite programming that are used for normal system operation. These include breaknotes for spot catchers, time updates, and non-music events.

A very important tool for satellite programming is over-scheduling. While satellite providers strive to provide flawless programming to affiliates, errors do sometimes occur. To prevent UDS II from getting out of sync with the satellite format, satellite schedules *must* be over-scheduled. Time updates are used to remove the extra breaknotes for satellite sources and play commercials at the appropriate times in the hour.


Three examples are shown below and on the following pages, based on the sample format clock on page two.

The first example is a snippet from the hour *before* satellite programming starts, illustrating how the user might load satellite liners and join the satellite network.

The second example illustrates a typical satellite hour, based on the format clock on page two. This example assumes that the user does not wish to step away from the satellite at the top of the hour for news.

The third example demonstrates a satellite hour in which the user has programmed UDS II to play local news and weather at the top of the hour.

Both variations on the satellite format assume a UDS II source of 7 for the satellite network. Please note that a different source number can be used, depending on the installed cards and configuration of the A4000 audio controller.

 Each schedule clock will be shown in UDS II breaknote notation. For more information about using breaknotes with music scheduling software and UDS II, please see “The Breaknote Language” in Chapter Three of *The Ultimate Digital Studio II User’s Manual*.

Important! It is up to the user to make sure that commercial spot breaks are filled, and that the proper number and duration of commercials are placed in each break. To guarantee proper satellite operation, schedules should be checked after merging, and prior to loading in UDS II.

To prevent premature returns from spot breaks, make sure that all commercials exist in the DCS, are within the current date range, and are the proper duration.

Example One: Preparing for Satellite Programming

The following table shows the breaknotes that should be included in the last hour of programming prior to joining the satellite network. A complete explanation of each breaknote follows the table.

Approximate Time for Event	UDS II Breaknote Syntax
:50	^89 :50:00 SAT1.DHK (additional events may be scheduled after this breaknote).
59:53	^83 :59:53 ~07 ^9 {ID01} Legal ID

:50 past the hour

```
^89 :50:00 SAT1.DHK
```

Before joining the satellite network, the liners for the first hour of satellite programming must be loaded. This breaknote automatically loads the hot key list *SAT1* at 50 minutes past the hour.

The complete syntax for this breaknote is:

```
^89 :MM:SS filename.dhk where
    :MM:SS is the time, in minutes and seconds past the top of the hour, when the hot key list is
    to be loaded.
    MM=Minutes, from 00 to 59, inclusive
    SS=Seconds, from 00 to 59, inclusive
    filename specifies the name of the hot key file to be loaded.
```

59:53 past the hour

```
^83 :59:53 Update and start next event
~07 ^9 {ID01} Legal ID
```

To properly join the satellite network, the legal ID must be played at a specific time. For the example satellite format, a legal ID has been recorded as cart ID01 in the Computer Concepts DCS. For consistency, this cart will be played as a scheduled event in the last non-satellite hour, prior to joining the satellite network.

Time update 83 is performed to start the legal ID immediately, fading out the event on-air. At the conclusion of the legal ID, UDS II will advance to the next event in the schedule, which will be the program from the satellite.

Example Two: Typical Satellite Hour (No News Insertion)

The following chart shows the breaknotes necessary for one hour of satellite programming, based on the format clock on page two. The approximate time each event occurs is shown in the left column, and the required UDS II breaknote is shown in the right column. A line-by-line analysis follows the table.

Time for Event (from satellite format clock)	UDS II Breaknote Syntax
:00	~180 ^7 Oldies at Night
:03	~180 ^7 Oldies at Night
:06	~1020 ^7 Oldies at Night
:23 (approximately)	~0 ^7 Oldies at Night ^82 :21:00 Time Update ^99 :00 :30 Local Commercials ~480 ^7 Oldies at Night
:34 (approximately)	~0 ^7 Oldies at Night ^82 :32:00 Time Update ^99 :31 :48 Local Commercials ~780 ^7 Oldies at Night
:49 (approximately)	~0 ^7 Oldies at Night ^82 47:00 Time Update ^99 :49 :60 Local Commercials ~360 ^7 Oldies at Night
:59:53	~0 ^7 Oldies at Night ^82 :59:30 Time Update ~07 ^9 {ID01} Legal ID

The following analysis more completely explains the breaknotes utilized for the example satellite clock on page 2. Both the labels from the satellite clock and the breaknotes from the example are shown for completeness.

:00 3-minute news option

~180 ^7 Oldies at Night

UDS II joins the satellite network. The duration of the event is 180 seconds (three minutes). This event is not entered as a time-compare event; UDS II will remain on this event until a contact closure from the satellite receiver advances the system.

Breaknotes and Your Music Scheduler: Example Two, Typical Satellite Hour, continued

A duration is specified so that run times will be properly displayed in UDS II; the system will *not* segue at the end of the specified time. If desired, another three-minute element (such as local news) can be substituted in this position.

:03 3-minute news option

```
~180 ^7 Oldies at Night
```

At :03, the satellite network fires contact closure four, making it possible for the affiliate to play a second local event. In this example, the affiliate elects to remain with the satellite programming. The repeated breaknote ensures that UDS II remains on the satellite network during this optional break.

A duration is specified so that run times will be properly displayed in UDS II; the system will *not* segue at the end of the specified time.

If desired, another three-minute element can be substituted in place of this breaknote.

:06 Music

```
~1020 ^7 Oldies at Night
```

At six minutes past the hour, the satellite network begins the first segment of programming. UDS II is instructed to air programming from the satellite network until a contact closure from the satellite receiver advances the system. A duration is specified so that run times will be properly displayed in UDS II; the system will *not* segue at the end of the specified time.

:23 Local Stopset Start, 3-Minute Local Option

```
~0 ^7 Oldies at Night
^82 :21:00 Time Update
^99 :00 :30 Local Commercials
~480 ^7 Oldies at Night
```

At approximately 23 minutes past the hour, the satellite network fires contact closure four to advance UDS II to play local commercials. Four breaknotes are associated with this action:

```
~0 ^7 Oldies at Night
```

This breaknote, which instructs UDS II to switch to the satellite source, will normally never air; in most instances, this event will be removed by the UDS II time update.

The breaknote prevents UDS II from getting out-of-sync with the satellite network in the event a satellite EOM (in our example, contact closure four) is sent at the wrong time. A run time of zero seconds is specified so that the redundant event does not affect the run times displayed in either the UDS II Utilities or in the UDS II \circ and $\text{a} \circ$ Edit windows.

Breaknotes and Your Music Scheduler: Example Two, Typical Satellite Hour, continued

`^82 :21:00 Time Update` The satellite format specifies that the first local spot break will occur at approximately 23 minutes past the hour. The UDS II time update is scheduled for 21 minutes past the hour, in the event that the spot break occurs slightly earlier than expected. All events (including redundant satellite events such as the one in the previous breaknote) between the event on-the-air and the first event following the time update will be removed at 21 minutes past the hour.

Some experimentation may be necessary with the update times, depending on the satellite provider.

`^99 :00 :30 Local Commercials` This breaknote is a standard spot catcher. All commercials in the traffic log between 00 and 30 minutes past the hour will be “gathered up” by this spot catcher.

`~480 ^7 Oldies at Night` This breaknote instructs UDS II to switch back to the satellite network at the conclusion of the spot break. This event will remain on-the-air until an end-of-message (EOM) closure is emitted by the satellite receiver.

**:34 Local Stopset Start
3-Minute Local Option**

The structure of this break is identical to that of the previous local option, except for the spot catcher. As with other types of UDS II programming, spot catchers must be structured so that all minutes within a given hour are covered.

`~0 ^7 Oldies at Night` Over-scheduled event to prevent UDS II from getting out of sync with the satellite network.

`^82 :32:00 Time Update` The time update is scheduled to occur at 32 minutes past the hour, removing all events between the event on-the-air and the event following the update, most notably the redundant satellite event in the previous breaknote.

`^99 :31 :48 Local Commercials` This spot catcher “gathers in” all the commercials from the traffic log scheduled between 31 and 48 minutes past the hour, inclusive, and places them in this commercial break.

`~780 ^7 Oldies at Night` Switches UDS II back to the satellite source at the conclusion of the commercial break. This event will remain on-the-air until an EOM is detected from the satellite receiver.

Breaknotes and Your Music Scheduler: Example Two, Typical Satellite Hour, continued

:49 Local Stopset Start 3-Minute Local Option

This is the third and final local commercial break for the hour.

~0 ^7 Oldies at Night Over-scheduled event to prevent UDS II from getting out of sync with the satellite network.

^82 47:00 Time Update The time update is scheduled to occur at 47 minutes past the hour, removing all events (including redundant satellite events) between the event on-the-air and the event following the update.

^99 :49 :60 Local Commercials This spot catcher “gathers in” all the commercials from the traffic log scheduled from 49 minutes past the hour until the end of the hour, inclusive, and places them in this commercial break.

~360 ^7 Oldies at Night Switches UDS II back to the satellite source. This event will remain on-the-air until an EOM is emitted by the satellite receiver.

A clock similar to this can be used for each hour of satellite programming. If necessary, different sets of liners can be loaded near the end of each hour using the ^89 command to load hot key files.

:59:53 Top of Hour

The satellite network provides a seven-second window for a pre-recorded legal ID.

~0 ^7 Oldies at Night Over-scheduled event to prevent UDS II from getting out of sync with the satellite network.

^82 :59:30 Time Update The time update is scheduled to occur at 59 minutes, 30 seconds past the hour, removing all events between the event on-the-air (including redundant satellite events) and the event following the update.

~07 ^9 {ID01} Legal ID Contact closure two is fired by the satellite receiver. This switches UDS II away from the satellite network to play cart ID01 from the Computer Concepts DCS. The AUX mark at the end of ID01 causes the next event to play. If not the end of satellite programming, the next satellite segment will start at the conclusion of ID01.

Breaknotes and Your Music Scheduler: Example Two, Typical Satellite Hour, continued

All the spot breaks have been covered for the hour. However, none of the satellite liners have been scheduled. Where are the liners?

It is not necessary to schedule the liners played by contact closures 3, 5, and 6. These are automatically played by contact closures originated by the satellite receiver.

Example Three: Typical Satellite Hour with Local News Insertion

In the previous example, the user elected to carry programming from the satellite provider, without taking advantage of either local news option at the top of the hour.

This example illustrates how the user might elect to fill the six minutes of optional time at the top of the hour with local content.

Time for Event (from satellite format clock)	UDS II Breaknote Syntax
:00	~180 ^9 {NX01} Local News
:03	^99 :00 :02 Two minutes local commercial content ~60 ^9 {WX01} Local Weather
:06	~1020 ^7 Oldies at Night
:23 (approximately)	~0 ^7 Oldies at Night ^82 :21:00 Time Update ^99 :03 :30 Local Commercials ~480 ^7 Oldies at Night
:34 (approximately)	~0 ^7 Oldies at Night ^82 :32:00 Time Update ^99 :31 :48 Local Commercials ~780 ^7 Oldies at Night
:49 (approximately)	~0 ^7 Oldies at Night ^82 47:00 Time Update ^99 :49 :60 Local Commercials ~360 ^7 Oldies at Night
:59:53	~0 ^7 Oldies at Night ^82 :59:30 Time Update ~07 ^9 {ID01} Legal ID

Breaknotes and Your Music Scheduler: Example Three, Typical Satellite Hour with Local News Insertion, continued

Here is an analysis of the breaknotes needed to play local news at the top of the hour, then join the satellite format. Three minutes of news are included at the top of the hour (pre-recorded on the DCS), followed by two minutes of commercial content, and one minute of local weather.

:00

3-Minute News Option

~180 ^9 {NX01} Local News This breaknote is used to play three minutes of local news at the top of the hour, pre-recorded on cart NX01. Please note that the duration of this cart *must* be exact for proper timing to occur.

^99 :00 :02 Two minutes local commercial content This breaknote has been provided to allow local sponsorship of news to be gathered from the traffic log and inserted between the local news and local weather segments. The commercials will begin playing upon receipt of the AUX mark from cart NX01.

~60 ^9 {WX01} Local Weather Following commercials, one minute of local weather is scheduled to play from cart WX01. A total of six minutes of local time has now been scheduled to fill the two three-minute news options provided by the satellite network.

~1020 ^7 Oldies at Night Upon receipt of the AUX mark from cart WX01, UDS II switches to the satellite network source, as specified by this breaknote. UDS II will continue to air the satellite network until a contact-closure is emitted by the satellite receiver EOM (contact closure four).

:23, :34, :49 Local Stopset Start

3-Minute Local Option

These stop sets are virtually unchanged, except for the spot catcher following the time update at 20 minutes past the hour. Its value has changed from “:00 :30” to “:03 :30” to accommodate the new spot catcher added during the news break.

:59:53

Top-of-Hour ID

The breaknotes associated with the top-of-hour ID are identical to those in example two.

Conclusion

This document has been provided to show the user how satellite programming may be controlled by UDS II. Many different combinations of programming are possible, depending on the satellite provider.

If you have any comments or questions regarding satellite programming and UDS II, please feel free to contact On air Digital as outlined below.

Technical support for the United States and Canada:

*On Air Digital USA
13370 Branch View Lane, Suite 120
Dallas, Texas 75234-9220*

*phone: 972.481.8700
fax: 972.481.9499
e-mail: support@onairusa.com*

Technical Support for Europe:

*On Air Digital GmbH
Peuntstraße 3
D-96050 Bamberg, Germany*

*phone: +49-(0)951-200130
fax: +49-(0)951-200141
email: info@onair.de*

Revised 5/24/1999 On Air Digital USA

On Air Digital RS-422 Interface Card 25-PIN D-SUB Connector Pinout

PIN NUMBER	SIGNAL NAME
1	Remote PrtScr (segue now)
2	Remote F2 Toggle (live/AutoSegue)
3	Remote ALT-S (insert/remove live studio in next-to-air)
4	Remote ALT-W (open weather window)
5	Remote ESC (close window/clear messages from bottom of screen)
6	UDS II Time Clock Sync
7	Remote DCS hot key 1
8	Remote DCS hot key 2
9	Remote DCS hot key 3
10	Remote DCS hot key 4
11	Remote DCS hot key 5
12	Remote DCS hot key 6
13	Remote DCS hot key 7
14	Remote DCS hot key 8
15	Remote DCS hot key 9
16	Remote DCS hot key 0
17	Utility Relay K1 Contacts
18	
19	Utility Relay K2 Contacts
20	
21	Utility Relay K3 Contacts
22	
23	Utility Relay K4 Contacts
24	
25	Digital Ground

Note: All auxiliary inputs are TTL-logic, ground switching. For instance, for remote i operation, a momentary-closure switch should be connected between pins 1 and 25.

**On Air Digital A4000 Audio Controller
Input Card 25-Pin D-SUB Connector Pinout**

Pin Number	Signal
1	Left channel balanced in +
2	Left channel balanced in –
3	Right channel balanced in +
4	Right channel balanced in –
5	Left channel pre-fader direct out +
6	Left channel pre-fader direct out –
7	Right channel pre-fader direct out +
8	Right channel pre-fader direct out –
9	Not connected
10	Start relay normally closed contact
11	Start relay common (wiper) contact
12	Start relay normally open contact
13	End of Message input
14-20	Analog (audio) ground
24-25	Digital ground (EOM common)