About the DMX-R100 Software Version 2.21

Overview of Version 2.21

The DMX-R100 Version 2.20 software has been updated to Version 2.21 by adding the following functions.

- Functions allowing for a 2 fs FRAME pattern MADI signal
  (A DMBK-R109 board (optional) with a firmware version of 1.13 or later is required.)
- Broad pan characteristics for panning around the center of the control arc
- A MIDI echo on/off function

Following the addition of the new functions listed above, the I/O STATUS window, TITLE MANAGER window, AUDIO FADER/CUT GROUPING window, MISC SETUP window and MIDI window have been changed. For detailed information about new functions and changes in these windows, refer to the various sections below.

For detailed information about the functions of the software version 2.20 or earlier, refer to the Instruction Manual and the Supplement supplied with your console.

Functions allowing for a 2 Fs FRAME Pattern MADI Signal

When a DMBK-R109 MADI board with a firmware version of 1.13 or later is inserted into SLOT 4, and you operate the console in 2 fs mode, the 1/2 FS

1/2 FS button

MADI signal input is automatically identified. LEGACY button
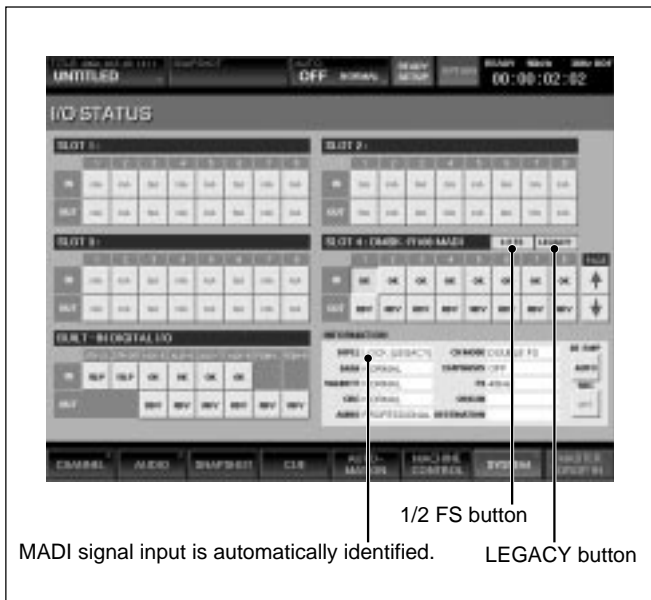
button and the LEGACY button appear on the SLOT 4 section in the I/O STATUS window as shown on the left column.
The signal received on the MADI board is automatically identified and displayed on the DIPLL row on the INFORMATION section in the window.

1/2 FS button
When the 1/2 FS button is lit in green, the WORD SYNC OUT connector on the MADI board outputs the word clock signal by dividing the internal word clock in two. For example, when the console operates on a 96 kHz word clock, the WORD SYNC OUT connector outputs a 48 kHz word clock.

When this button is gray, the WORD SYNC OUT connector supplies the same frequency word clock as the internal word clock.

LEGACY button
When the LEGACY button is lit in green, the MADI OUT connector on the MADI board outputs a LEGACY pattern MADI signal.
When the button is gray, the MADI OUT connector outputs a 2 fs FRAME mode MADI signal.

Inputting the MADI signal and the WORD SYNC signal
Regardless of the LEGACY button setting, the MADI board will accommodate either the LEGACY pattern or the 2 fs FRAME pattern input.

When you select an input channel on the SLOT 4 section in the I/O STATUS window, the DIPLL row on the INFORMATION section in the window shows the signal pattern received.
LOCK (LEGACY): When receiving a LEGACY pattern input
LOCK: When receiving a 2 fs FRAME pattern input

Similarly, regardless of the 1/2 FS button setting, the MADI board receives the 1 fs and 2 fs word clock signals, and synchronizes the console with the external word clock.
For example, when you operate the console and the MTR on different sampling frequencies (such as operating the console on the 96 kHz fs while operating the MTR on the 48 kHz fs), you can synchronize the console with the MTR by supplying the word clock of the MTR to the WORD SYNC IN connector on the MADI board and setting the MTR as the external word clock source.

Example 1: To connect a console with a sampling frequency of 96 kHz, to a MADI machine which corresponds to a LEGACY pattern signal and operates on a 48 kHz sampling frequency

1 Touch the LEGACY button and the 1/2 FS button to highlight them in green.

2 For the reference clock of a MADI machine corresponding to the LEGACY pattern signal, connect the output from the WORD SYNC OUT connector on the MADI board.

Example 2: To connect a console with a sampling frequency of 96 kHz, to a MADI machine which corresponds to a 2 fs FRAME pattern signal

1 Leave the LEGACY button and the 1/2 FS button lit in gray.

2 For the reference clock of a MADI machine corresponding to the 2fs FRAME pattern signal, connect the output from the WORD SYNC OUT connector on the MADI board or the output from the REF WORD OUT connector on the console.

Notes

- If the DMBK-R109 firmware is version 1.12 or before, neither the LEGACY button nor the 1/2 FS button appear on the window, and the MADI board does not accommodate the 2 fs FRAME pattern MADI signal, even when you operate the console in 2 fs mode. To update a DMBK-R109 equipped with firmware of version 1.12 or before, contact your nearest Sony dealer.
- When operating the console on 1fs (a sampling frequency of 44.1 kHz or 48 kHz), neither the LEGACY button nor the 1/2 FS button appear on the window.
- When operating the console in 1fs mode, do not input a 2 fs word clock signal to the REF WORD IN connector on the console or to the WORD SYNC IN connector on the MADI board. If you do, a DSP error may occur resulting in no audio signal and the console may have to be turned on again.
- The LEGACY pattern MADI signal transmits a 2 fs signal in the same frame rate as that of a 1 fs MADI signal by coupling consecutive odd and even channels as a pair. So, a machine which only corresponds to a 1 fs MADI signal can accept 2 fs signals by regarding the channel pair as one signal. Though, if such a MADI machine cannot control the channel pair within an accuracy of one sampling frequency unit, distortion may occur.

- When the 1/2 FS button is set to ON, the word clock output from the WORD SYNC OUT connector on the DMBk-R109 is a synthesized signal based on the internal clock of the console. So, the start of the word clock does not agree with the top of the MADI frame. Depending on the MADI machine connected, the console may not synchronize with the MADI machine, and even when they synchronize with each other, the channels received on the MADI machine may be out of phase by about one sampling unit, when the 1/2 FS button is set to ON.
- While operating the console in 2 fs mode, if you input the usual 1 fs MADI signal, the MADI input is recognized as a LEGACY pattern, and distortion may occur.
- Set the LEGACY button and the 1/2 FS button appropriately, according to the machine connected. Inappropriate settings may result in a malfunction of the machine and distortion may occur.
- The REF WORD OUT connector on the console always transmits the same frequency word clock as the internal word clock.
  When operating the console in 2 fs mode, you cannot synchronize the console with an external word clock by inputting a 1 fs word clock signal to the REF WORD IN connector of the console.
- The settings of the LEGACY button and the 1/2 FS button are contained in the TITLE. They are not affected by the snapshot or automation recall.

Selection of Broad Pan Characteristics

A BROAD PAN button has been added to the MISC SETUP window as shown below. You can select two

BROAD PAN button

kinds of pan control characteristics with the use of this button.
Lit in gray (OFF): Normal pan characteristics.
Lit in green (ON): Broad pan characteristics.
   The pan knob provides selectively high-resolution around the center of the control arc.

The setting of the BROAD PAN button collectively changes the pan characteristics of the channel pan, MTR pan, surround pan, and AUX bus pan in stereo mode.

To indicate the pan characteristics, a BROAD PAN row has been added to the INFORMATION section in the TITLE MANAGER window.
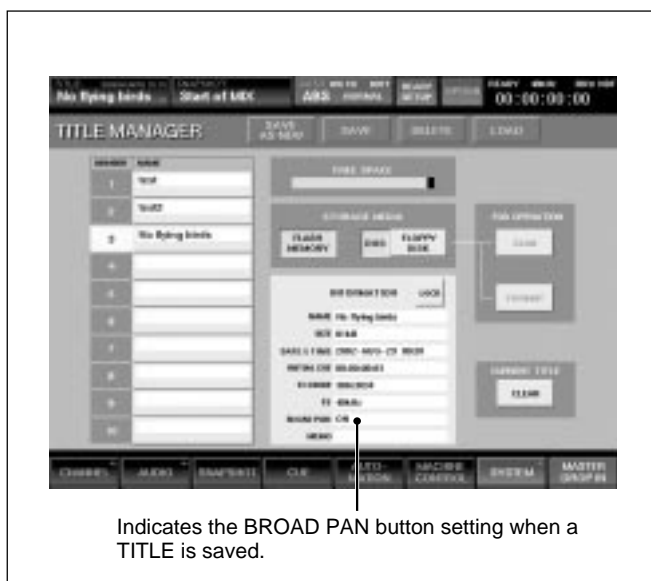
Indicates the BROAD PAN button setting when a TITLE is saved.

Examples

BROAD PAN   ON: When the pan characteristics of both the existing TITLE and the present console setting are the same, the indication appears without parenthesis.
   In this case, the existing TITLE has been saved (or kept) with the BROAD PAN button set to ON and, on the console, the BROAD PAN button is also set to ON. Load the TITLE and you can use it as it is.
BROAD PAN   OFF (CONSOLE IS ON): When the pan characteristics of the existing TITLE are different from those of the console, the console setting appears in parenthesis.
   In this case, the existing TITLE has been saved (or kept) with the BROAD PAN button set to OFF while, on the console, the BROAD PAN button is set to ON. After loading the title, be sure to set the BROAD PAN button on the console to OFF before using the TITLE.

Notes

• Every time you set the BROAD PAN button, the button setting is stored in the console as console information.
• When loading the TITLE on the console, if the pan control characteristics of the existing TITLE are different from those on the console, or if you change the BROAD PAN button setting while processing a new title, the panning result may be different from what you expected. Before loading a title, be sure to confirm the pan control characteristics of the existing TITLE by checking the BROAD PAN indication in the INFORMATION section on the TITLE MANAGER window.
• The BROAD PAN button setting data of the current TITLE or an existing TITLE has been overwritten by the KEEP or SAVE operation.
• If you update the DMX-R100 software using the APPLICATION UPDATE disk, the BROAD PAN button returns to OFF (lit in gray). After updating the software, be sure to set the BROAD PAN button again on the MISC SETUP window as required.
• Software version 2.20 (and before) ignores the BROAD PAN button setting which has been added to the software from version 2.21, and processes the signal as if the BROAD PAN button has been set to OFF. So, an incorrect mix balance may result if you recall a TITLE saved on software version 2.21, or later, with the BROAD PAN button set to ON, on a console where the software version is 2.20 or earlier.

In Version 2.21, the MANUAL GROUP button has been moved from the MISC SETUP window to the AUDIO FADER/CUT GROUPING window. The function of the MANUAL GROUP button is the same in Version 2.20.
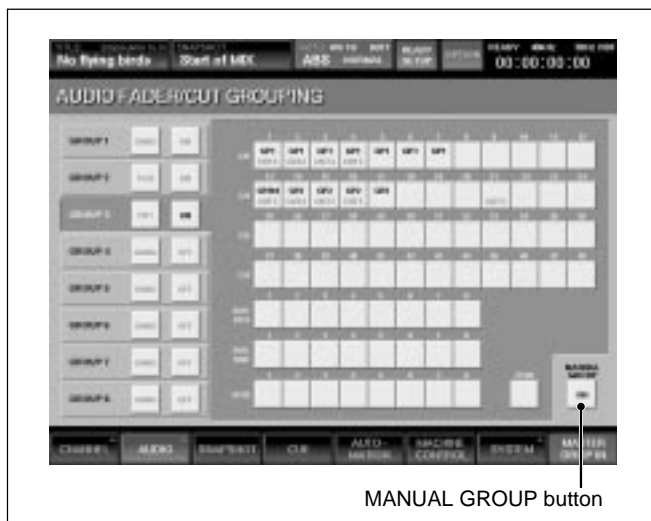
MANUAL GROUP button

MIDI Echo ON/OFF Function

A MIDI ECHO button has been added to the MIDI window. The button turns ON or OFF the MIDI ECHO function as explained below.

ON: The MIDI echo function is activated. The MIDI messages input to the MIDI IN connector are transmitted from the MIDI OUT connector.

OFF: The MIDI echo function is disabled. No MIDI messages input to the MIDI IN connector are relayed to the MIDI OUT connector.

Notes

• When the RX ENABLE button is not activated on the PROGRAM CHANGE section or the CONTROL CHANGE section in the MIDI window, the MIDI message selected on the MIDI CHANNEL section is not relayed to the MIDI OUT connector, even if the MIDI ECHO button is ON.

Similarly, when the TX ENABLE button is not activated on the PROGRAM CHANGE section or the CONTROL CHANGE section in the MIDI window, the selected MIDI message is not relayed to the MIDI OUT connector, even if the MIDI ECHO button is ON.

• The MIDI ECHO button ON/OFF setting is stored in the console every time you change the MIDI ECHO button setting.

MIDI ECHO button
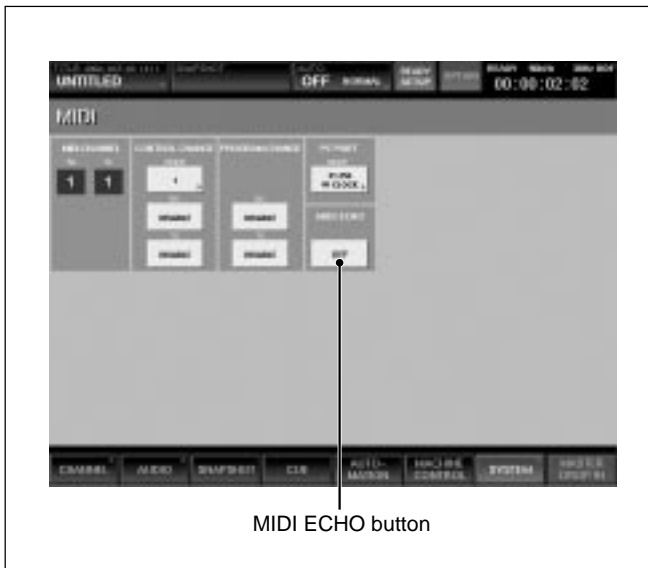
Resolution of Problems

The following problems from Version 2.20 or before have been resolved in Version 2.21.

Improvement of the compensation efficiency when an unstable input timecode is input

When dropouts or a reading error occurs in the input timecode, if they are less than 10 frames in duration, the console continues the automation operation by compensating for them. Note that the automation stops automatically after about 15 frames when the time code stops.

Changes of the BAR/BEAT display on the automation panel of the console

• Before the offset time code, the Bars indication is zero or has a minus value, and the Beats indication increments from 1 to the selected value.

• When the BARS button is ON on the automation panel of the console, the BAR/BEAT display shows the value as follows.

– When the timecode exceeds the range from –999 to 9999 bars when converted to the BAR/BEAT value, or when the timecode to be displayed goes over (or goes back from) "00:00:00:00," the BAR/BEAT display shows "-- -- -- --."

– You cannot input a BAR value which goes over (or goes back from) "00:00:00:00" when converted to the timecode.

– When you input "0000 bars 00 beats 00 MIDI clock," the console treats the input value as "1 bar 1 beat" and displays it as "00:01:01:00."

– You cannot input a minus value while the display shows a plus value, nor input a plus value while the display shows a minus value. In such a case, press the LTC button to light it and input the timecode value directly.

– If you switch back and forth between the BARS and LTC indications repeatedly while inputting a timecode, the input value may be shifted slightly, as changing the indication between BARS and LTC brings a conversion error.