AKAI DIGITAL

DR16
HARD DISK RECORDER

Version 2.10 Addendum

Operator's Manual

WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

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Outline of New Functions

The following functions have been added to DR16 software version 2.10:

New functions

- Up to 4,000 audio files can be recorded on a disk. (Extended format)
- A recording crossfade setting of 0-80ms is available.
- A more flexible sync setting is available for digital audio input.
- Bi-phase 24fps pull-down I/O is supported.
- An optional interface board IB-808G GPIO is available.
- An optional Ethernet interface board IB-809E is available.
- An optional interface board IB-D8TIF TDIF is available.

Removed function

- The DR16 does not support multi-sync operation using the remote connector. It supports the operation performed from an MT8, as usual.

> *Apology: Due to the limitations of the remote connection circuit (such as a decrease in actual communication speed caused by an increase in data), the multi-sync operation using the remote connector, especially the sync operation in Record mode, is not thoroughly supported.*

Extended Disk Format

Using the Extended disk format enables you to manage a directory four times the size of the standard format. More precisely, you could formerly create only up to 1000 files on a single disk; now you can create up to 4000 files.

Extended format procedure

1) Press the SUB-MENU key.

2) Press numeric key "1" (DISK).

3) Use the jog wheel to select F0RMAT **, and press the STORE/ENT key.**

4) Select the SCSI ID of the disk you wish to format, and press the STORE/ENT key.

5) Use the jog wheel to select EXTENDED **, and press the STORE/ENT key.**
SURE?? appears on the display.

6) Press the STORE/ENT key.

FORMATTING **appears on the display, and the DR16 starts formatting the disk.**

> *Note: Formatting takes awhile.*

When formatting is complete, DONE appears on the display.

Notes on using the Extended format

• When you use a disk in the Extended format, the CPU requires greater RAM capacity. Therefore, during the format, copy, back-up, or snapshot operation, the DR16 may sometimes display NO MEMORY. In this case, expand the CPU's RAM amount.

• You will need two SIMM cards of 1MB, 30-pin, and 60ns to expand the memory.

• You can "extended format" a disk of small capacity (i.g., 1.3GB), but it will not have enough physical space to accommodate 4000 files.

• You cannot use an Extended-formatted disk on earlier versions of the DR8, DR16, or DD1500 before version 2.10.

• You can load back-up data from an extended format disk to a standard format disk. However, if the extended format disk contains more than 1000 files, you will be unable to load the data and the DR16 will display DISK FULL.

• If a VGA board is used, the VGA display speed may slow down if there are many files to process.

Format type indication

The DR16 displays the format type of the disk that contains the current project.

1) Press the SUB-MENU key.

2) Press numeric key "1" (DISK).
TIME appears on the display.

3) Press the STORE/ENT key.

4) **Use the jog wheel to select** $FORMT$.

The following format types will be displayed:

Display	Format type
$NORM$	Standard DR8/DR16/DD8/DD1500 format
$EXTD$	Extended format
$DDIX$	DD1000 format
$????$	Un-recognizable/un-formatted

> *Note: The format type that appears on the display indicates the format type of the disk that contains the current project. If you wish to use another type of disk format, first load the project to the DR16, then change the indications.*

Crossfade recording

You can make a crossfade setting with the range of 0-80ms to join parts of two recordings.

1) **Press the SUB-MENU key.**

2) **Press numeric key "3" (SET UP).**

3) **Use the jog wheel to select** $REC \ XFADE$.

4) **Press the STORE/ENT key.**
$XFADE \ 00MS$ appears on the display.

5) **Use the jog wheel to set the crossfade time.**
The setting range is 0 - 80ms.

Digital Audio Sync

Note: Some DR16s may not support this function. Please contact AKAI or your local dealer.

Setting digital clock sync

As a default setting, the DR16 automatically locks to the external digital clock (word clock) to record a digital input signal. (AutoSync: ON)

DAT/CD PLAYER   DR16

DIGITAL OUT   DIGITAL IN
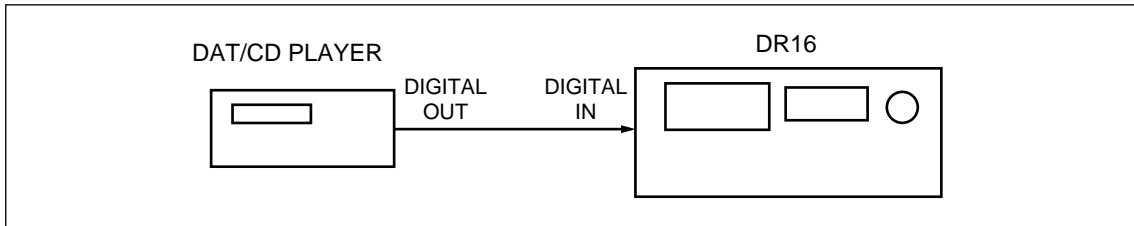
However, there may be some cases where locking to an external digital clock will cause a problem.

DIGITAL MIXER/
DIGITAL MULTI TAPE RECORDER

DIGITAL OUT   DIGITAL IN   DR16

DIGITAL IN   DIGITAL OUT
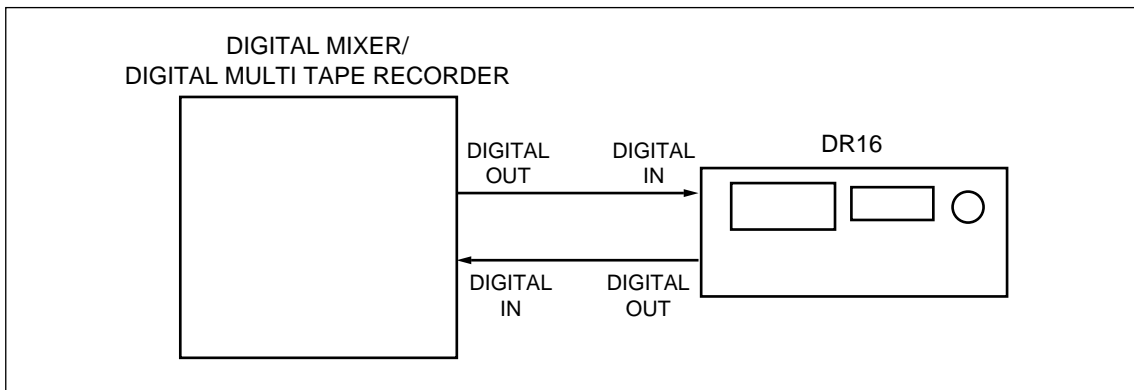
In the diagram shown above, the external digital device is set as a slave machine, and is synchronizing with the DR16's internal digital clock. However, the DR16 is also trying to lock to the external digital clock. This situation prevents synchronization. In order to avoid this, you can set the DR16 so that it will ignore the external digital clock fed from its digital input connector and reference the internal clock. (AutoSync: OFF)

1) **Press the SUB-MENU key.**

2) **Press numeric key "2" (DIGI).**

3) **Use the jog wheel to select AUTO SYNC.**

4) **Press the STORE/ENT key.**

   AUTO ON appears on the display.

5) **Use the jog wheel to set the AutoSync function to on or off.**

   With the off setting, the DR16 will ignore the clock signal fed from the digital input connector.

Clock error

If the DR16 receives an illegal digital signal or a signal that is out of sync, it will display *INP GLITCH* immediately and cancel the recording.

New Bi-phase Rate

The DR16 can receive and generate bi-phase signal of 23.976Hz (24fps, NTSC 0.1% pull-down). This signal is used for synchronization in the film industry.

1) Press the SUB-MENU key.

2) Press the SYNC key.

3) Use the jog wheel to select $BIPHASE$ **and press the STORE/ENT key.**

4) Use the jog wheel to select $SMPTE2398F$ **and press the STORE/ENT key.**

> *Note: You will need an optional bi-phase interface board IB-806B to use this function.*

Options

The following options are available for version 2.10.

GPIO

Installing an optional board IB-808G enables you to use GPIO (General Purpose Input and Output) and remote-control the DR16 from an external device. This optional board has 16 general purpose inputs (GPI) and 12 general purpose outputs (GPO). The following table shows the operation of each pin, and there are no special settings.

GPI

Connecting the GPI to an external device that can switch between LOW and HIGH for each pin enables you to control the DR16 from the external device.

Pin number	Operation
GPI-1	TRACK REC1 is turned ON during LOW setting.
GPI-2	TRACK REC2 is turned ON during LOW setting.
GPI-3	TRACK REC3 is turned ON during LOW setting.
GPI-4	TRACK REC4 is turned ON during LOW setting.
GPI-5	TRACK REC5 is turned ON during LOW setting.
GPI-6	TRACK REC6 is turned ON during LOW setting.
GPI-7	TRACK REC7 is turned ON during LOW setting.
GPI-8	TRACK REC8 is turned ON during LOW setting.
GPI-9	Plays back when LOW is received. (PLAY)
GPI-10	REC key is turned ON during the LOW setting.
GPI-11	Stops when LOW is received. (STOP)
GPI-12	Rehearsal is turned ON/OFF when LOW is received.
GPI-13	(No action)
GPI-14	All channels are turned ON when LOW is received.
GPI-15	All TRACK REC are turned ON during LOW setting.
GPI-16	All channels are turned OFF when LOW is received.

* This version does not support TRACK REC 9-16.

GPO

GPO outputs the DR16's operation status. For example, it can cause an external indicator to light up during recording.

Pin number	Operation
GPO-1	Outputs LOW when TRACK REC1 is ON.
GPO-2	Outputs LOW when TRACK REC2 is ON.
GPO-3	Outputs LOW when TRACK REC3 is ON.
GPO-4	Outputs LOW when TRACK REC4 is ON.
GPO-5	Outputs LOW when TRACK REC5 is ON.
GPO-6	Outputs LOW when TRACK REC6 is ON.
GPO-7	Outputs LOW when TRACK REC7 is ON.
GPO-8	Outputs LOW when TRACK REC8 is ON.
GPO-9	Outputs LOW during recording (or recording stand-by mode).
GPO-10	Outputs LOW during playback.
GPO-11	Outputs LOW when the Rehearsal key is ON.
GPO-12	(No action)

Note: Set the GPI's input reference level to 5V and the trigger level (LOW) to 0V. Also, set the GPO's output reference level to 5V and the tally level (LOW) to 0V.

TDIF

Installing an optional board IB-D8TIF allows the DR16 to input and output a digital signal using a TASCAM digital interface. Note that you cannot use the board for the TEAC TASCAM meter unit that comes with the optional board.

Note: Some DR16s may not work with this optional board. Consult AKAI or your local dealer.

Note: You cannot use this board in conjunction with another optional board IB-804A (ADAT interface board).