

D16 - 16 Track Digital Recorder FAQs

How can I export my audio tracks as individual WAV files?

How do I burn an audio CD?

Where can I find the SysEx?

Converting tracks to WAV onto a CD-D Series

On the D-Series recorders, you have the ability to record your Song and then export individual tracks or the entire song as separate .wav files onto a CD for use in other systems. It must be copied to a clipboard first however. This guide will walk you through the procedure.

1. Store the start and end times of the section of the song that you wish to export. Do this by pressing STORE then LOC 1 at the beginning of the section and STORE LOC 2 at the END.

Note: For moving tracks to play in a computer DAW etc. you should always export your tracks starting at the beginning of the Song, regardless of when your audio actually starts. This way you are guaranteed that you can re-align your tracks accurately.

2. Press the TRACK button repeatedly until the EDIT TRK tab is selected on the bottom of the screen.
3. Using the rotary dial, select "COPY TRACK" under EDIT TYPE.
4. Using the Cursor, go down to the left, to the "from" track selection.
5. Using the rotary dial, select the track(s) you would like to export from. (i.e. 1-16)
6. Using the cursor, go to the right to the "to track" selection.
7. To the right, using the rotary dial, select the CLIP that it will be saved to. (i.e. CLIP 16)
8. Using the cursor, select EXEC.
9. Press the ENTER button.
10. If you are sure, using the cursor go over to YES and press the Enter button.
11. Press the ENTER button for "OK".
12. Press the Track button, until the tab on the screen that is marked EXPORT is selected.
13. Using the Cursor, select the arrow in box.
14. When it's highlighted, press the ENTER button.
15. Insert a blank CD.
16. Using the cursor, select "G: CD".
17. Press the ENTER button.
18. Using the cursor, select "OK".
19. Press the ENTER button.
20. Using the Cursor, highlight EXEC.
21. Press the ENTER button.
22. Using the cursor, go over to "YES" if you are sure.
23. Press the ENTER button.

You have just exported your files to CD as .WAV files.



Burning Audio CDs – D12, D1200 (mkII), D16 and D1600(mkII)

The D12, D16 and D1600 allow the user to create a standard audio CD using an external SCSI CDR/RW burner or, in the case of the D12, D1200 and D1600, an optional internal CDR/RW burner. The D-series recorders burn the data that is currently on tracks 1 and 2, so that means if one wishes to burn an entire mix, it would have to be first bounced to those two tracks.

“But what if I already have data on tracks 1 and 2?” The good news is that the entire mix (including the data that’s already on tracks 1 & 2) can be recorded or “bounced” without losing tracks 1 and 2. This info is simply merged together. This tutorial explains how to bounce the tracks and burn an audio CD.

First, we’ll bounce the mix down to Tracks 1 & 2:

1. Set up your mix. Adjust the faders, pan pots, effects and scenes.
2. Press the RECORD button (the square one just right of the screen) so that the screen displays the Record Mode.
3. Using the cursor buttons, highlight “Bounce” and press the ENTER button.
4. Press the RECORD button to enter the Bounce Mode.
5. Using the cursor buttons once again, highlight “16Tr → 2Tr” (or “12Tr→2Tr in D12”) and press the ENTER button.
6. Cursor down to Record Virtual Track and select a virtual track to record on. For this tutorial we will select virtual track **h**.
7. Put tracks 1 & 2 into record ready mode (LEDs are red).
8. Press the METER/TRACK VIEW button, to monitor the signals. The level of the L/R Master will mirror what’s going into tracks 1& 2.
9. Rewind to the start of your song and press the REC and PLAY to record the whole song. When done press stop.
10. Upon completion, press the TRACK button to enter the Vtr1-8 (Vtr1-6 on the D12) screen.
11. Using the cursor button highlight **1a** then using the value wheel, select virtual track **1h**. Do the same for track **2a** (set to **2h**).
12. Set the pan pots for tracks 1 & 2 left and right respectively, and set the faders to unity (0dB).
13. Repeat steps 1-12 for every song that you wish to put to CD.

Now we’re ready to burn tracks 1 and 2 to CD. Set Scene Read to OFF at this point, so that tracks 1 and 2 cannot be manipulated as they were when they were single tracks. If you have not already done so, insert a blank CDR into the drive and allow it to ‘spin up’ completely, then:

1. Press the SONG/CD button until you reach the Song Select screen. Note, the song you select on this screen is the one that will be burned to the CD.
2. Press the **SONG/CD** button (on the D16 the **SONG** button) three times to enter the CDR/RW screen.

3. Cursor over to the **Write to CD** field and press the ENTER button.

You will be prompted to “Obey Copyright Rules”

4. Highlight “YES” and press the ENTER button.

The song will now be converted into an image file and then copied to the CD

5. Repeat steps 1-3 for each song you wish to burn to CD.
6. Highlight the “Final” field and press the Enter button when you’re done burning the last song to the CD. This will finalize the CD, and make the information audible in a standard CD player!



D16 MIDI Implementation

D16(version2.0) MIDI Implementation (2000.07.24)

1. Transmitted Data

1-1. Channel Messages

Status	Second	Third	Description
1011 nnnn (Bn)	0ccc cccc (cc)	0vvv vvvv (vv)	Control Change *1
1100 nnnn (Cn)	0ppp pppp (pp)		Program Change *2

Notes *1: Control Change is different from standard way.

For MixerControl; Transmitted when ControlChange is enabled in [SYSTEM]"MIDI."

[!] MIDI MixerControl Messages (Bn ID vv)

ID	message	parameter	value
7	Bn 07 vv	Fader	0-127
8	Bn 08 vv	Pair switch(1-2,3-4,5-6,7-8)	0=Independent, 1=Pair
10	Bn 0A vv	Pan	0-127 (64=center)
12	Bn 0C vv	EffSend1	0-100
13	Bn 0D vv	EffSend2	0-100
14	Bn 0E vv	AuxSend	0-100
16	Bn 10 vv	EQ Low	0-60 (30=Flat)
19	Bn 13 vv	EQ Mid	0-60 (30=Flat)
20	Bn 14 vv	EQ MidFc	0-48
25	Bn 19 vv	EQ Hi	0-60 (30=Flat)
68	Bn 44 vv	Input EQ Low	0-60 (30=Flat)
71	Bn 47 vv	Input EQ Mid	0-60 (30=Flat)
72	Bn 48 vv	Input EQ MidFc	0-48
77	Bn 4D vv	Input EQ Hi	0-60 (30=Flat)
80	Bn 50 vv	SubIn Level	0-100
81	Bn 51 vv	SubIn Balance	0-127 (64=center)
82	Bn 52 vv	SubIn Mono	0=Stereo, 1=Monaural
83	Bn 53 vv	SubIn Mute	0=Mute Off, 1=Mute On
86	Bn 56 vv	MstEff1 RetLev *1-1	0-100
87	Bn 57 vv	MstEff1 RetBal *1-1	0-127 (64=center)
88	Bn 58 vv	MstEff2 RetLev *1-1	0-100
89	Bn 59 vv	MstEff2 RetBal *1-1	0-127 (64=center)
94	Bn 5E vv	Pair control(Eq/Send/Aux/Pan) *1-1	b7-4:--- b3: Pan (0=Pair Off, 1=Pair On) b2: Eq (0=Pair Off, 1=Pair On) b1: Send (0=Pair Off, 1=Pair On) b0: Aux (0=Pair Off, 1=Pair On)
95	Bn 5F vv	Master fader *1-1	0-127

Notes *1-1: Common of all channels.

Not recognized but by Global Channel.

*2: Transmitted when ProgramChange is enabled in [SYSTEM]"MIDI."

Transmitted when ...

"SceneNumber" is changed in the [SCENE]"ReadDel"tab page.

A scene is registered by pressing the [STORE] key and [SCENE] key.

"SceneRead" is "On" and the scene changed during playback/recording.

Program Change #000-099 correspond to Scene Number 001-100.

1-2.Universal System Exclusive Messages

1-2-1.MIDI Machine Control *1

Status	Description
1111 0000 (F0)	Universal System Exclusive
0111 1111 (7F)	Real Time Header
00aa aaaa (aa)	DeviceID (0-127)
0000 0110 (06)	Machine Control Command(mcc)sub-
0bbb bbbb (bb)	ID
:	Command String *2
:	
1111 0111 (F7)	End-of-Exclusive

Notes *1: Transmitted when "MMC Mode:Transmit" is selected in [SYSTEM]"MMC."
Not transmitted in [SCRUB],[Wave],[Song]"PrgPlay",[Input]"Tuner",
and in operation at [SYSTEM]"DiskUtil"tab page.

[!] MMC Transmitted Messages	
STOP [01]	F0 7F dv 06 01 F7 ;dv(DeviceID) = 00-7F
PLAY [02]	F0 7F dv 06 02 F7
DEFERD PLAY [03]	F0 7F dv 06 03 F7
RECORD STROBE [06]	F0 7F dv 06 06 F7
RECORD EXIT [07]	F0 7F dv 06 07 F7
LOCATE [44]	F0 7F dv 06 44 06 01 hr mn sc fr ff F7
	;hr : hour(0-23), type *1-1
	;mn : minute(0-59)
	;sc : second(0-59)
	;fr : frame(0-29)

Notes *1-1: hr = 0yyzzzzz
zzzzz = hour(0-23),
yy = type(Only 11 = MIDI Time Code 30 non-drop frame, is enabled.)

*2: <Command String> ::= <Command> | <Command String><Command>
Number of bytes in a Command String field must not exceed 48.

1-2-2.MTC Full Messages *1

Status	Second	Third	Description
1111 0000 (F0)	0111 1111 (7F)	dv 01 01 hr mn sc fr F7 *2	MTC Full Message

Notes *1: When "MMC Mode:Transmit" is selected, locate message is transmitted by MMC Message.
When "MMC Mode:Off" and "MIDISync Mode: MTCMstr" are selected, locate message
is transmitted by MTC Full Message.

*2: dv : DeviceID = 7F
hr = 0yyzzzzz : zzzzz = hour(0-23),
yy = type (Only 11 = MIDI Time Code 30 non-drop frame, is enabled.)
mn : minute(0-59)
sc : second(0-59)
fr : frame(0-29)

1-3.System Common Messages

Status	Second	Third	Description
1111 0001 (F1)	0000 xxxx (0x)		MTC Quarter Frame (fr(L)) *1
1111 0001 (F1)	0001 xxxx (1x)		MTC Quarter Frame (fr(H)) *1
1111 0001 (F1)	0010 xxxx (2x)		MTC Quarter Frame (sc(L)) *1
1111 0001 (F1)	0011 xxxx (3x)		MTC Quarter Frame (sc(H)) *1
1111 0001 (F1)	0100 xxxx (4x)		MTC Quarter Frame (mn(L)) *1
1111 0001 (F1)	0101 xxxx (5x)		MTC Quarter Frame (mn(H)) *1

1111 0001 (F1)	0110 xxxx (6x)		MTC Quarter Frame (hr(L)) *1
1111 0001 (F1)	0111 xxxx (7x)		MTC Quarter Frame (hr(H)) *1
1111 0010 (F2)	0sss ssss (ss)	0ttt tttt (tt)	Song Position Pointer *2

Notes *1: Only MTC30NDF(MIDI Time Code 30 non-drop frame) is transmitted when "MIDISync Mode:MTC Mstr" is selected in [SYSTEM]"Sync."

*2: Transmitted when "MIDISync Mode:ClockMstr" is selected in [SYSTEM]"Sync."

1-4.System Real time Messages *1

Status	Description
1111 1000 (F8)	Timing Clock
1111 1010 (FA)	Start
1111 1011 (FB)	Continue
1111 1100 (FC)	Stop

Notes *1: Transmitted when "MIDISync Mode:ClockMstr" is selected in [SYSTEM]"Sync."

2.Recognized Receive Data

Not received in [SCRUB],[Wave],[Song]"PrgPlay",[Input]"Tuner", and in operation at [SYSTEM]"DiskUtil" tab page.

2-1.Channel Messages

Status	Second	Third	Description
1001 nnnn (9n)	0kkk kkkk (kk)	---- ---- *2	Note On (note) *1
1001 nnnn (9n)	---- ---- *2	0vvv vvvv (vv)	Note On (velocity) *1
1011 nnnn (Bn)	0ccc cccc (cc)	0vvv vvvv (vv)	Control Change (0-119) *1,*4
1100 nnnn (Cn)	0ppp pppp (pp)		Program Change *3
1101 nnnn (Dn)	0vvv vvvv (vv)		Channel Pressure (After Touch) *1
1110 nnnn (En)	0hhh hhhh (hh)	---- ---- *2	Bender Change *1

Notes *1: For EffectControl; Received when selected in [SYSTEM]"Control" and insertion effect that will be controlled is selected in "CtrlChg:Ass."

*2: Not recognized at all.

*3: Received when ProgramChange is enabled in [SYSTEM]"MIDI" and when "SceneRead" is "Off." Program Change #000-099 correspond to Scene Number 001-100.

*4: Control Change is different from standard way.

For MixerControl; Received when ControlChange is enabled in [SYSTEM]"MIDI."

[!] MIDI MixerControl Messages (Bn ID vv)

ID	message	parameter	value
7	Bn 07 vv	Fader	0-127
8	Bn 08 vv	Pair switch(1-2,3-4,5-6,7-8)	0=Independent, 1=Pair
10	Bn 0A vv	Pan	0-127 (64=center)
12	Bn 0C vv	EffSend1	0-100
13	Bn 0D vv	EffSend2	0-100
14	Bn 0E vv	AuxSend	0-100
16	Bn 10 vv	EQ Low	0-60 (30=Flat)
19	Bn 13 vv	EQ Mid	0-60 (30=Flat)
20	Bn 14 vv	EQ MidFc	0-48
25	Bn 19 vv	EQ Hi	0-60 (30=Flat)
68	Bn 44 vv	Input EQ Low	0-60 (30=Flat)
71	Bn 47 vv	Input EQ Mid	0-60 (30=Flat)
72	Bn 48 vv	Input EQ MidFc	0-48
77	Bn 4D vv	Input EQ Hi	0-60 (30=Flat)
80	Bn 50 vv	SubIn Level	0-100
81	Bn 51 vv	SubIn Balance	0-127 (64=center)

82	Bn 52 vv	SubIn Mono		0=Stereo, 1=Monaural
83	Bn 53 vv	SubIn Mute		0=Mute Off, 1=Mute On
86	Bn 56 vv	MstEff1 RetLev	*4-1	0-100
87	Bn 57 vv	MstEff1 RetBal	*4-1	0-127 (64=center)
88	Bn 58 vv	MstEff2 RetLev	*4-1	0-100
89	Bn 59 vv	MstEff2 RetBal	*4-1	0-127 (64=center)
94	Bn 5E vv	Pair control(Eq/Send/Aux/Pan)	*4-1	b7-4:--- b3: Pan (0=Pair Off, 1=Pair On) b2: Eq (0=Pair Off, 1=Pair On) b1: Send (0=Pair Off, 1=Pair On) b0: Aux (0=Pair Off, 1=Pair On)
95	Bn 5F vv	Master fader	*4-1	0-127

Notes *4-1: Common of all channels.
Not recognized but by Global Channel.

2-2.Universal System Exclusive Messages

2-2-1.MIDI Machine Control *1

Status	Description
1111 0000 (F0)	Universal System Exclusive
0111 1111 (7F)	Real Time Header
00aa aaaa (aa)	DeviceID (0-127)
0000 0110 (06)	Machine Control Command(mcc)sub-ID
0bbb bbbb (bb)	Command String *2
:	
:	
1111 0111 (F7)	End-of-Exclusive

Notes *1: Received when "MMC Mode:Receive" is selected in [SYSTEM]"MMC."

*2: <Command String> ::= <Command> | <Command String><Command>
Number of bytes in a Command String field must not exceed 48.

2-2-2.MTC Full Messages *1

Status	Second	Third	Description
1111 0000 (F0)	0111 1111 (7F)	dv 01 01 hr mn sc fr F7 *2	MTC Full Message

Notes *1: MTC Full Message is enabled when "MMC Mode:Off" and "MIDI SyncMode:MTC Slave" are selected.

*2: dv : DeviceID = 7F
hr = 0yyzzzzz : zzzzz = hour(0-23)
yy = type (Only 11 = MIDI Time Code 30 non-drop frame, is enabled.)
mn : minute(0-59)
sc : second(0-59)
fr : frame(0-29)

2-3.System Common Messages *1

Status	Second	Description
1111 0001 (F1)	0000 xxxx (0x)	MTC Quarter Frame (fr(L))
1111 0001 (F1)	0001 xxxx (1x)	MTC Quarter Frame (fr(H))
1111 0001 (F1)	0010 xxxx (2x)	MTC Quarter Frame (sc(L))
1111 0001 (F1)	0011 xxxx (3x)	MTC Quarter Frame (sc(H))
1111 0001 (F1)	0100 xxxx (4x)	MTC Quarter Frame (mn(L))
1111 0001 (F1)	0101 xxxx (5x)	MTC Quarter Frame (mn(H))
1111 0001 (F1)	0110 xxxx (6x)	MTC Quarter Frame (hr(L))
1111 0001 (F1)	0111 xxxx (7x)	MTC Quarter Frame (hr(H))

Notes *1: Only MTC30NDF(MIDI Time Code 30 non-drop frame) is received when "MIDISync Mode:MTC Slave" is selected in [SYSTEM]"Sync."

[!] MTC RecvErrorLevel(in [SYSTEM] "Sync")

Treated as synchronization error when ...

Level 0 : No Check.

1 : more than 1000msec out.

2 : more than 500msec out.

3 : more than 300msec out.

4 : more than 100msec out.

5 : more than 50msec out.

6 : more than 40msec out.

7 : more than 30msec out.

8 : more than 20msec out.

9 : more than 10msec out.

2-4.System Real time Messages *1

Status	Description
1111 1000 (F8)	Timing Clock
1111 1010 (FA)	Start
1111 1100 (FC)	Stop

Notes *1: Received when "SelectRecTempoTrackType:MIDIClock" is selected in [TEMPO/RHYTHM]"TmpTrk" to record the tempo track.

3.MIDI Machine Control Commands

Communication between the D16version2.0(Controlled Device) and a Controller is in the "open loop" mode only. The D16version2.0 accepts commands from MIDI IN port but does not send any response to MIDI OUT.

Available Commands

(MCS=Motion Control State,MCP=Motion Control Process)

HEX	Commands
01	STOP(MCS)
03	DEFERD
04	PLAY(MCS)
05	FAST
06	FORWARD(MCS)
07	REWIND(MCS)
08	RECORD STROBE
09	RECORD EXIT
0D	RECORD PAUSE
40	PAUSE(MCS)
44	MMC RESET
4C	WRITE
	LOCATE(MCP)
	MOVE

Available Information Fields

HEX	Information Field Name
01	SELECTED TIME CODE
08	GP0/LOCATE POINT

D16version2.0 Signature (The D16version2.00 never transmits this message.)

01 00 00 00

0C

7B 47 00 00 00 00 00 00 00

11 20

02

02 02

