KORG

Digital Recording Studio **D16 Guide**

Mode / Function Overview

Working with the D16:

Recording and Editing Basics:

Loop Recording and Playback

Virtual Tracks

Insert, Master and Final Effects

Metronome and Rhythm Pattern Applications:

Song and Track Editing:

Additional Owner's Manual References:

Digital Recording Studio   *D16 Guide*

Mode / Function Overview

Audio connections: *Use the **MASTER L / R** outputs when connecting the D16 to a stereo monitor system.*

Recording sources and monitoring for this guide: *You'll be recording with an external microphone for some of the exercises in this guide. You'll need **headphones** and a **lo-impedance microphone and cable.***

Objects referred to in this guide: *D16 panel objects that you'll work with are:* ***Keys***, ***Dial***, ***Faders*** *and* ***Pan***/***Balance Knobs***. *D16 TouchView objects that you'll work with are:* ***Tabs***, ***Buttons***, ***Boxe****s and* ***Icons***.

How to Select and Listen to the Demo Songs:

1. Press the **SONG** key, then press the **SelSong** tab in the display.

2. Press the **>** button to the left of the current song name.

3. Press the **-** button in the display, and press to highlight any demo song name.

4. Press the **OK** button in the display to select the highlighted song.

5. The **TRACK STATUS** LED's below the display should all be lit in **green**. Press any of the **TRACK STATUS** keys that are not green to set Play Status.

6. Lower the **MASTER fader** to **"00"**, press the **PLAY** key to begin playback, then slowly-raise the **MASTER fader** to a comfortable listening level.

7. When the demo song has finished playing, press the **STOP** key.

Note: *Make sure to press **STOP** when the song ends - if you don't, the counter will continue to run!*
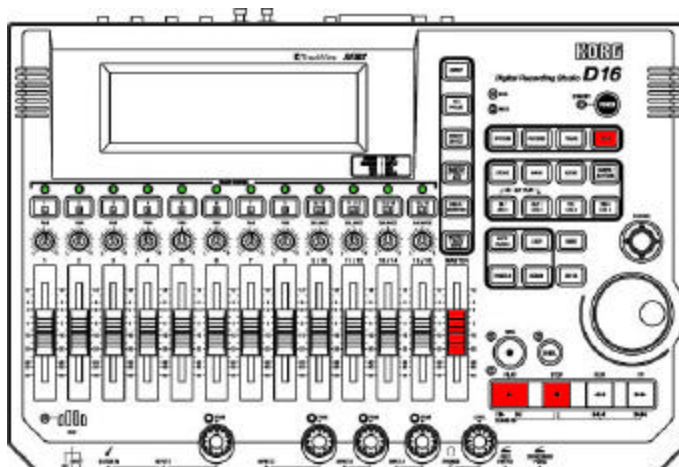
Demo Song Track Listings:

Song:	I001:Alone	Song:	I002:Clarity	Song:	I003:Someday
Track:	**Instrument:**	**Track:**	**Instrument:**	**Track:**	**Instrument:**
1	Drums L	1	Percussion1	1	Drums L
2	Drums R	2	Percussion2	2	Drums R
3	Bass Guitar	3	Percussion3	3	Bass Guitar
4	Solo Elec Guitar	4	Elec Guitar	4	Elec Guitar1 L
5	Elec Guitar1	5	Ac Guitar1 L	5	Elec Guitar1 R
6	Elec Guitar2	6	Ac Guitar1 R	6	Ac Guitar L
7	Elec Guitar3	7	Ac Guitar2 L	7	Ac Guitar R
8	Elec Guitar4	8	Ac Guitar2 R	8	Lead Vocal
9 /10	Piano L / R	9 /10	Ac Guitar3 L / R	9 /10	Vocals L/R
11 / 12	Vocal1 L / R	11 / 12	Ac Guiitar4 L/R	11 / 12	Piano L / R
13 / 14	Vocal2 L / R	13 / 14	Piano L / R	13 / 14	Elec Guitar2 L / R
15 / 16	Organ L / R	15 / 16	Percussion4 L / R	15 / 16	Organ L / R

Quick Tour of a D16 Demo Song:

1. Select any one of the three demo songs (**I001 - I003**).

2. Press the **PLAY** key to begin playback, and raise the **MASTER** fader to a comfortable listening level.

Note: If the song ends before you've finished this part of the tour, just press the IN/LOC1 key - the song will locate to it's beginning and start playback again!

Overview the SCENE MEMORY mode:

PITCH: The D16 features 100 -Scene Memory for "snapshot" automation of channel faders, pan and EQ settings and effect send levels! **Each of the demo songs has a Scene stored**. When you select a demo song, the SCENE key will light and the original mix settings will be recalled.

Note: More on the SCENE function later in this guide.

Overview the METER / TRACK VIEW mode:

1. As the song plays, press the **METER/TRACK VIEW** key, and work with the **Channel Faders** - the display will indicate your changes, and you can view the Send, Monitor and Master levels.

Note: Make sure that the display mode is set to PostFdr in the upper-left of the display - if not, press the Popup Button in the upper-left, and select PostFaderLevel from the dialog box, then press the OK button.

PITCH: The METER/TRACK VIEW mode features five ways to see overall mix and track data (PreFader, PostFader, TrackView1-8, TrackView9-16, TrackView1-16) for accurate metering of all signal levels!
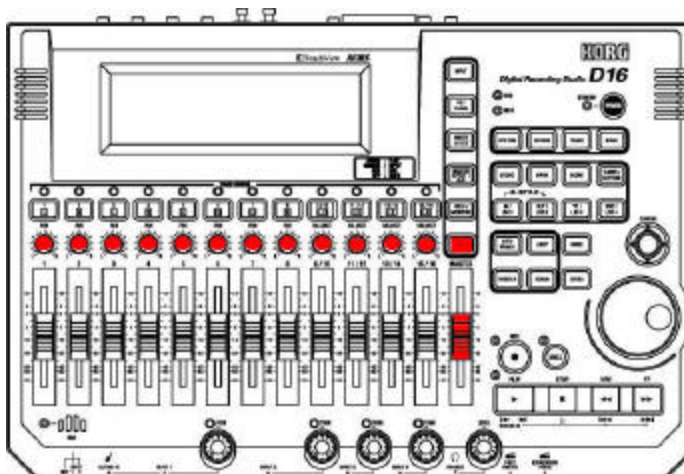
Overview the PAN controls and CHANNEL PAIRING feature:

1. As the song continues to play, adjust the **PAN** controls for tracks 1-8 to set new pan settings for each track.

PITCH: The D16 features a Channel Pairing function to simultaneously - control adjacent channels for controlling Track Status, Pan, EQ, Aux and Effect send settings as well as Channel fader position!

Overview the EQ mode:

1. Press the **EQ/PHASE** key, then press the **Eq1-4** tab in the display. Here you'll see EQ settings for tracks 1-4 - by pressing an EQ parameter "knob" in the display and rotating the **DIAL**, you can make changes to the track EQ.

*PITCH: The D16 features **3- band EQ** for every track! Lo, Mid and Hi EQ **plus Mid frequency***

***control** to give you the utmost in EQ control! You can apply EQ as you record, as well as in track playback!*

Note: If the song ends before you've finished this part of the tour, just press the IN/LOC1 key - the song will locate to it's beginning and start playback again!

Overview the INSERT EFFECT mode:

*PITCH: **44 Bit Effects:** 8 insert, 2 master and 1 final mastering effect - that's **11 simultaneous***

for each song!

1. Press the **INSERT EFFECT** key - this page let's you set Insert Effect assignments for each track and assign the effect type. By pressing one of the insert effect tabs (InsEff1, etc.) you can apply an insert effect. Once a desired effect is selected, you can press the effect name button to access the icons and editing parameters for the insert effect program you've selected.

*PITCH: There are **128 preset** insert effect programs to choose from, **including 98 chains of up***

***to 5 effects at once!** The D16 features Korg's new **REMS** modeling effects - accurate amp, cabinet and microphone simulations! You can edit any of the preset effect programs, then store your edits to **128 user** effect programs! Plus, many of the effects like wah and delay can be controlled in realtime using the D16's exclusive Expression Pedal input!*

Overview the MASTER EFFECT mode:

PITCH: Send your mix through Master and Final Effects - for ultimate processing!

1. Press the **MASTER EFFECT / AUX** key, then press the **MstEff1 tab** in the display - for both Master Effect 1 and Master Effect 2, you can select from any of **32 Master** effects, set return levels and balance, and easily-edit the effect parameters! The Eff1 and Eff2 tabs let you set individual send levels for every track!

*PITCH: The highest-quality effect algorithms available are all onboard, and if you need more external processing, there's an **AUX send** and level for every track! The Master and Final Effect programs let you polish-off your mix for **CD-ready mastering** - here you can choose from **32 preset** effects, and store any edits to one of **32 user** locations!*

Note: The D16 demo songs already include applied Master and Final Effects. You can view them by pressing the MASTER EFFECT / AUX key, followed by the MASTER and FINAL effect tabs.

Overview the SOLO / MONITOR modes:

PITCH: The SOLO function lets you solo channels, sends and returns instantly!

1. Press the **SOLO / MONITOR** key. You can listen to one or more selected tracks by pressing the desired track button(s) in the display. The solo audio can be routed to the Monitor L/R outputs or Master L/R outputs and headphone out. You can solo effect send 1 and 2 levels, aux level, as well as return levels for master effects.

*Note: You can also press the **TRACK STATUS** keys during playback, to mute desired tracks (unlit).*

*Note: More "hands-on" work with the **SOLO** function later in this guide.*

Overview the MONITOR function:

PITCH: *The MONITOR function gives you an independent mix!*

1.   Press the **Monitor** tab in the display, and then press the **Level** button in the display.

PITCH: *The D16 features **Monitor Cue level and pan settings for all 16 tracks**. You can*

dial-in your own separate mix, without affecting the mix routed to the Master outputs!
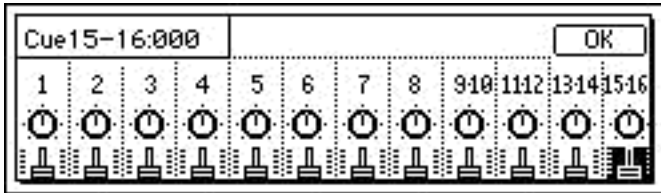
Overview the SCRUB function:

PITCH: *The Scrub function and TouchView waveform display give you precise control when working with tracks!*

1.   Press the **SCRUB** key. Here you'll see specific track waveform data - you can ZOOM vertically and horizontally, and use the **DIAL** to scrub the audio.
2.   Press the **OK** button in the display, to return to the previous page.

PITCH: *Press the **FF** key while the SCRUB function is on, and the audio data will play back at half-speed - an octave lower than the original pitch. This is a great way to rehearse and learn intricate solo lines!*
Note: *You'll be working with the **SCRUB** function later in this guide.*
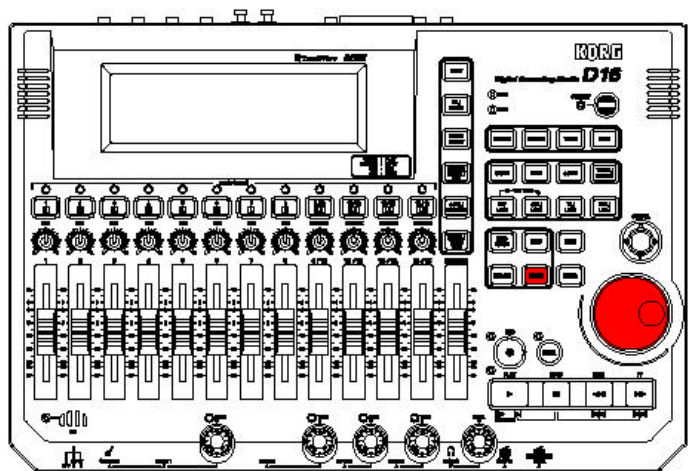
Overview the TUNER / MICROPHONE functions:

PITCH: The D16 features a built-in TUNER and MICROPHONE!

1.   Press the **INPUT** key, then press the **Tuner** tab in the display.

PITCH: With the tuner, you can precisely - tune electric instruments, or use the built-in microphone to tune external sources like acoustic guitars. In addition, the tuner lets you check the tuning of a previously recorded track, and the microphone can be used to record scratch vocal tracks or narration!

Overview the METRONOME function:

PITCH: The D16 features a built-in METRONOME with **215 PCM-based drum patterns!**

1.   Press the **TEMPO/RHYTHM** key to view this page.
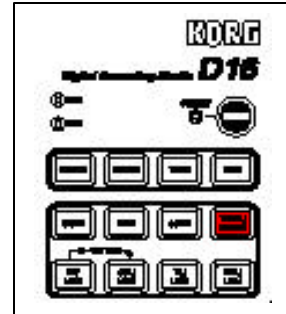
PITCH: The D16 provides you with the **"ultimate metronome"** *- the drum patterns in memory provide a great tempo "guide" for many musical genres. You can create up to* **200 tempo map events per song**, *and even* **record the patterns to tracks!**
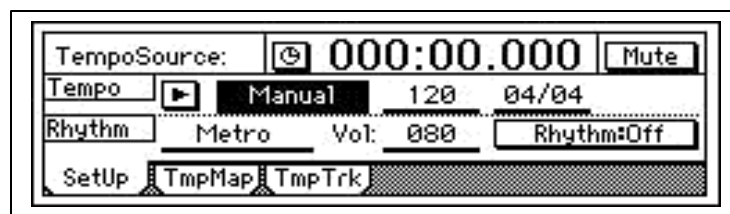
Note: More "hands-on work with the METRONOME function later in this guide.

Note: If the song ends before you've finished this part of the tour, just press the IN/LOC1 key - the song will locate to it's beginning and start playback again!

Overview the Analog INPUTS:

PITCH: The D16 features **8 TRS-balanced audio inputs**, *each with* **TRIM** *control, located on the*

front and back panel. Two of these inputs are XLR/Phono 3-31 type connectors. And with the ***dedicated***

GUITAR input *on the front panel, you can quickly - connect your guitar and begin recording!*

1. Press the **INPUT** key. Here you can set front and rear panel inputs to specific channels, and apply EQ on input for tracks 1-16.

PITCH: The D16's digital mixing environment makes it easy for you to route external sources to any

channel - instantly!

Overview the VIRTUAL TRACKS / BOUNCE functions:

PITCH: The D16 has **16 tracks**, **each with 8 Virtual tracks** - giving you **128 onboard tracks!**

1. Press the **TRACK** key. The Vtr1-8 and Vtr9-16 tabs, track select and DIAL let you specify the virtual tracks for recording.

PITCH: You can record solo parts etc. on the virtual tracks and then select your favorite take later!
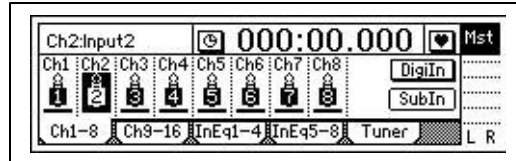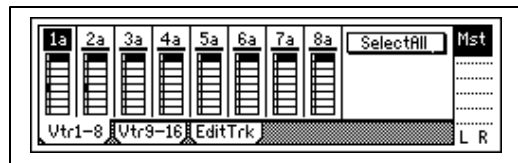

PITCH: Bouncing tracks has never been easier! In addition to traditional track bouncing functions, the D16

features an ***exclusive*** **"16 to 2" function** that let's you bounce 16 tracks of audio data down to 2 virtual

tracks - this way you can create virtual mixdowns *internally*, and select your favorite mix from the virtual

tracks - then master to external 2- track machines when you've got the perfect "virtual" mix!

Note: If the song ends before you've finished this part of the tour, just press the IN/LOC1 key - the song will locate to it's beginning and start playback again!

Overview the PUNCH IN / OUT functions:

PITCH: The **Manual** and **Auto Punch In/Out** functions let you re-record specific sections seamlessly!
Manual - Punch In/Out on a selected track is easily accomplished by pressing the REC key or a footswitch during playback - to instantly enter record mode.

1.   Press the **AUTO PUNCH** key - in the display you'll see "In" and "Out" locations that you can set ahead of time, using the STORE and IN/OUT keys.

*PITCH: You can also set In / Out times by pressing the **"Wave"** button in the Auto Punch page - a great feature that let's you set punch in / out times while viewing a waveform display! And you can easily - set Pre and Post-roll times to specify playback time before and after recording!*

Additional Features:

100 Scenes, 100 Mark points, 4 Locate points per song!

Store "snapshot" Scene automation of fader, pan, EQ and effect send levels, and name your scenes for easy recall ! Create specific Mark points in the song structure, name them for convenient access to "Verse", "Chorus", "G-Solo" etc., and immediately jump to these registered locations! Store four Locate points for instant access to specific areas with front panel keys!

99 levels of UNDO:

Use the UNDO / REDO function to step back through the previous recording or editing operations, so that you have plenty of opportunity to fix any mistakes that happen!

Time Stretching:

Match tempo between recordings of different tempo, or fit recording into a specific time length!

Reverse playback:

Reverse specific regions of audio data using single or multiple tracks, then copy the results to new audio regions or tracks!

Optimizing Track Data:

After editing your tracks, this feature let's you create one piece of audio data from several "fragmented" regions - resulting in perfect playback and better conservation of hard disk space!

Auto-Save Feature:

It's good to know that your valuable song data will be saved automatically, when selecting new songs and on power-down!

Loop recording and playback:

Set specific in / out points in your song and loop the audio - then rehearse intricate parts to be recorded, or use the punch-in function while looping, and add new data as the loop plays! Use the loop playback feature to audition specific regions of recorded audio!

Trigger Recording:

Set recording to begin automatically in response to an audio input!

Record Tap Tempo:

This function lets you record the tempo after you've recorded a song that has no tempo settings - a great feature! This way you can then edit your tracks in units of measures or synchronize the D16 to external MIDI devices!

Use MIDI to automate D16 functions:

Besides using MIDI to synchronize the D16 to other devices, it can be used to control the effects in real time, and change scenes via MIDI program change messages!

Program Play function:

Playback your songs in any order - from internal and external drives!

Produce an Audio CD, or backup your audio data to CD-R / CD-RW- directly from the D16:

Burn an audio CD via the D16's built-in software and SCSI interface! Easily backup your valuable audio data to CD -R or CD-RW, or to external drives!

Use the SUB INPUTS to send external audio directly to the Master bus:

Assign any analog inputs as Sub Inputs, and run the audio from your sequencer - in sync - direct to the D16's Master bus, or record a guitar final pass, along with the internal tracks -direct to your mastering deck! Use the Sub Inputs to return audio from an external processor connected to the AUX OUT!

TIP: Alternate access of songs

Besides using TouchView to select songs, you can use the DIAL, or press and hold the STOP key and press the REW or FF keys to move to new songs!

D16 Feature Overview

Basics Features:

1. Press the **SONG** key, then press the **SelSong** tab in the display.
2. Press the **>** button to the left of the current song name.
3. Press the **–** button in the display, and press to highlight demo song **I001 "Alone"**.
4. Press the **OK** button in the display to select this demo song.
5. The **TRACK STATUS** LED's below the display should all be lit **green**. Press any of the **TRACK STATUS** keys that are green until they are all green - to set Play Status.
6. Press the **PLAY** key to begin playback.

| Song:	I001:Alone
Track:	**Instrument:**
1	Drums L
2	Drums R
3	Bass Guitar
4	Solo Elec Guitar
5	Elec Guitar1
6	Elec Guitar2
7	Elec Guitar3
8	Elec Guitar4
9 /10	Piano L / R
11 / 12	Vocal1 L / R
13 / 14	Vocal2 L / R
15 / 16	Organ L / R

Mute / Un-mute specific tracks with the TRACK STATUS keys:

1. While the song plays, try muting and un-muting tracks, by pressing the **TRACK STATUS** keys (unlit - mute / green - play).

2. Mute all tracks except tracks **1,2** and **3**. (Drums L/R and bass).

> *Note: If the song ends before you've finished this part of the tour, just press the IN/LOC1 key - the song will locate to it's beginning and start playback again!*

Work with the EQ function:

1. While the song plays, press the **EQ/PHASE** key.

2. Press the **Eq1-4** tab in the lower-left of the display.

3. Press to highlight different EQ "**knobs**" in the display, and you'll notice that the upper-left corner of the display indicates which EQ parameter and track you are highlighting.

4. Press the **HiEq knob** for **track 3** - the display will indicate **HiEq3**.
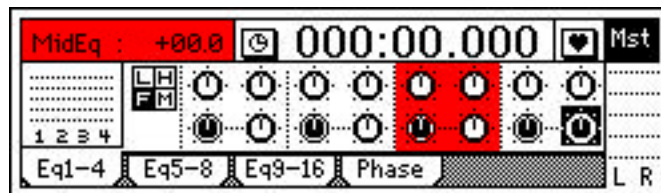
5. Rotate the **DIAL** to apply new hi EQ settings to the bass track.

6. Press to highlight the **MidEq3** "knob", and use the **DIAL** to apply lo EQ settings.

7. Press the **MidFc3** "knob", and use the **DIAL** to apply a new mid frequency to the bass track. *Remember that the upper-left of the display indicates the EQ parameter you're currently working on.*

> *Note: If you press the STOP or IN/LOC1 keys after adjusting EQ settings, the EQ parameters will reset to their originally - stored Scene values. Later, as you become more-proficient with the D16, you can copy demo songs to new locations, disable scene memory and un-protect your copied demo songs - allowing you to create and edit your own mixes and scenes.*

Apply an Insert effect to a track:

1. Re-start the song again.

2. Press the **INSERT EFFECT** key, then press the **InsAss** (Insert Assign) tab in the display.

3. Press the **Popup Button** in the display, just to the right of Assign.

4. Press the **PlayTrack** radio button, then press **OK** (You'll be applying an insert effect to a playback track).

5. Press the **Popup Button** just above the InsEff2 tab in the display:

Assign: ▶ In ⟨clock icon⟩ **000:00.000** ♥
SelectEffType: InsertTo: In1▶ 1 ▶Off In2▶ 2 ▶Off
▶ 1in1outx4   ◀▶   In3▶ 3 ▶Off In4▶ 4 ▶Off
InsAss   InsEff1   InsEff2   InsEff3   InsEff4   Ins⌐¬
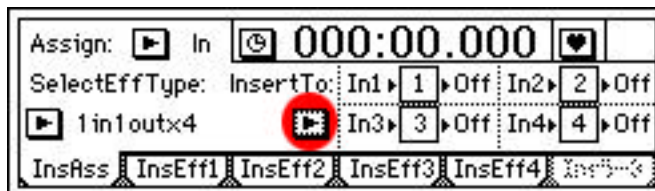
6. Press to highlight the **Off** value - to the left of the **1 box** (insert effect 1).

Select InsertEffect AssignChannel: OK
    Off▶ 1 ▶Off In2▶ 2 ▶ 2   Cancel
    In3▶ 3 ▶Off In4▶ 4 ▶Off

7. Rotate the **DIAL** clockwise, until you set the insert effect assign channel to a value of **3**.

Select InsertEffect AssignChannel: OK
    3 ▶ 1 ▶ 3 Off▶ 2 ▶Off   Cancel
    Off▶ 3 ▶Off Off▶ 4 ▶Off

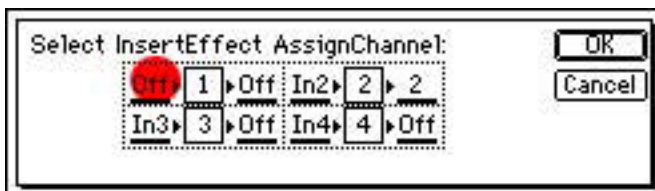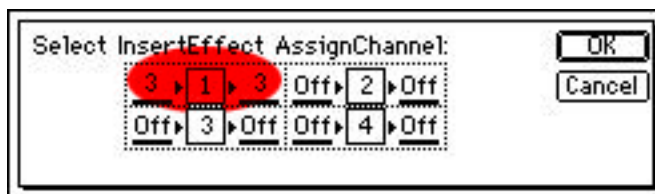8. Press the **OK** button in the display.

Note: *If the song ends before you've finished this part of the tour, just press the IN/LOC1 key - the song will locate to it's beginning and start playback again!*

9. Press the **InsEff1** tab at the bottom of the display.
10. Make sure that all tracks except tracks **1-3** are muted (TRACK STATUS keys unlit)- this way you'll be able to clearly-hear the insert effect you're going to apply.
11. Rotate the **DIAL** to select insert effect **I069 MM1: P4EQ-Exciter** (parametric equalizer and exciter).
12. Press the **MM1: P4EQ-Exciter** button in the display - you'll see two **icons** representing these effects.
13. Press the **P4EQ icon** to view the parameters for this effect. Try adjusting other parameters on this page, like **Fc** (frequency), "**Q**" and **G** (gain) settings.

Note: *After you've tried working with the above insert effect, make sure to un-mute all tracks to continue this tutorial!*

Here's a suggested insert effect you can apply to another track in song "I001 Alone":

Track: 6   Instrument: Guitar2
Insert Effect: I075 Compressor / Amp Simulator

Remember: You'll need to assign this track to another insert effect first! Use the previous steps for insert effect assignment, using the graphic examples below:

1. Press this Popup Button:
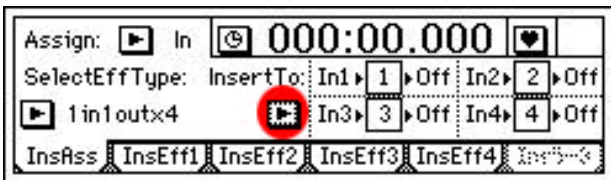
2. Press the insert effect 2 "Off" parameter:
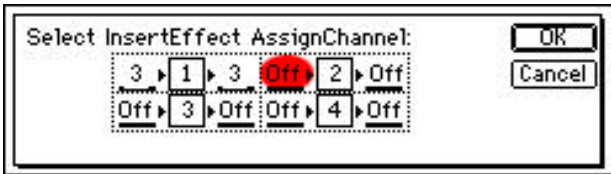
3. Rotate the DIAL to select 6.

Here are a few more examples that could be used to apply insert effects on playback - in additional demo songs:

Song: I001 Alone

Track: 4   **Instrument: Elec Guitar**
Insert Effect: I081 Exciter / Compressor

Song: I002 Clarity

Track: 4   **Instrument: Elec Guitar**
Insert Effect: I087 Limiter / Chorus/Flanger

Song: I003 Someday

Track: 8   **Instrument: Lead Vocal**
Insert Effect: I105 Mic Simulator SM57 / 414

In the previous examples, we overviewed applying insert effects on playback tracks - just imagine the ability to quickly - assign single or multiple effects as you record guitar, bass, vocal, etc.!!! Here's a graphic example of a Guitar multi - effect preset program using 5 chained effects:

Effect Program I043: GT5 Guitar Multi

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The "Big Effects Picture"

The D16 provides you with 98 chains of up to 5 effects each - specifically designed

for guitar, bass, vocal and Final mastering effect applications!

Process your mix through Two Independent Master Effects, apply a Final effect, then

burn your own CD - with the D16 !

Simply choose and easily - edit the Master effect you want, set return levels and balance,

then set send levels from each channel to the masters - you can even store the send levels

as part of multiple scene changes within your song!

From Inserts to Masters to Final Effect - you're ready to master your music to CD - and you

don't need a room full of equipment to do it, because the D16 does it all !!!
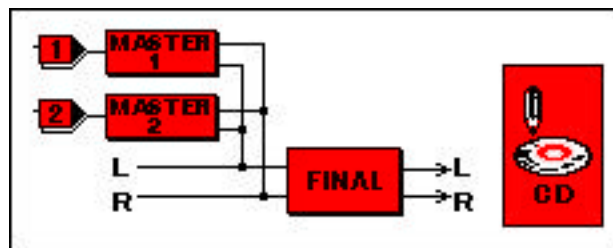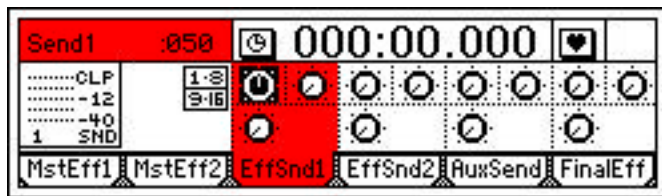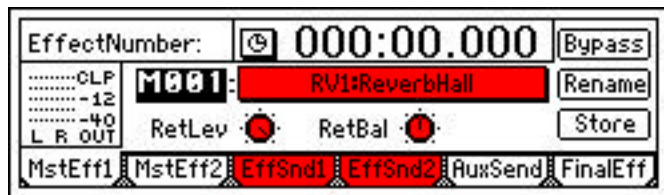
Work with the SCRUB function:

1. If you've been editing effects previous to this point in the tour, make sure to exit the effect parameter pages by pressing **OK** in the display, then press the **SONG** key to return to the main page - **Song I001: Alone**.

2. Make sure that the **TRACK STATUS** LED's are all lit **green**!

3. Press the **SCRUB** key.

4. Press the **>** button to the left of **Trk1** in the display, and press to select the **Trk6** (Guitar) radio button from the dialog box, then press **OK**.

5. Rotate the **DIAL** - you'll **see the track waveform data** as you scroll through measures with the **DIAL**, and you'll **hear the audio data** for this track - at a pitch governed by how fast you scrub with the DIAL.

6. Press the ✕ button in the lower - left of the display to **zoom - in** on the waveform data, then continue to scrub the audio.

Playback the audio data at half-speed:

1. Press the **FF** key while the **SCRUB** function is **on**.

The audio data will play back at half-speed of the original pitch - a great way to rehearse

and learn intricate solo lines, etc.!

2. Press the **STOP** key to stop song playback, then press **OK** in the display.

Work with the Solo function:

1. Press the **SONG** key to return to the main song menu. Make sure you're still working with **Song I001: Alone**.

2. Press the **PLAY** key to start playback of the song.

3. Press the **SOLO / MONITOR** key, then press the **Solo** tab in the display:
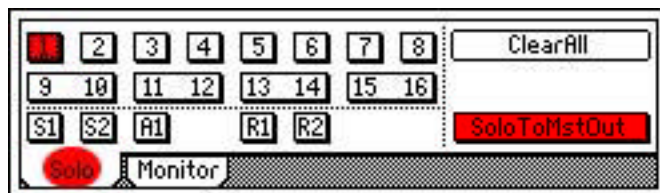
4. As the song plays, press the track button **1**, then press the **SoloToMstOut** button to solo the Drum L.

5. Try pressing other track buttons to create solo "groups", or press **highlighted** track buttons to turn solo off for the desired tracks.

> *Note: If the D16 you're working with is connected to audio monitors via the MASTER outputs, the solo function will not work until you press the Solo To Master Out button in the lower-right of the display, after selecting a track to solo.*

6. When you're finished trying the Solo function, press the **Clear All** button in the upper-right of the display, then press the **STOP** key.

Work with the Metronome and Rhythm Patterns:

For the following section, we'll have you **select a NEW SONG:**

1. Press the **SONG** key, then press the **SelSong** tab in the display.

2. Press the **New** button in the lower right of the display. From the **MakeNewSong** dialog box, press **OK**. The next - available empty song location will be selected.

3. Press the **TEMPO / RHYTHM** key - you'll hear a standard metronome "click".

Now to audition some PCM rhythm patterns:

4. Press the **Metro4** button in the display.

```
TempoSource:    [🕐] 000:00.000  [Mute]
Tempo    [▶]  Manual    120    04/04
Rhythm       Metro    Vol:  080    [Rhythm:Off]
   SetUp  [TmpMap][TmpTrk]
```

5. Slowly rotate the **DIAL** to select and listen to some of the great rhythm patterns available. Use the **MASTER** fader to control the overall volume level.

6. After you're finished auditioning patterns, press the **SONG** key to stop pattern playback.

Recording and Editing Basics

Create a new song:

1. Press the **SONG** key, followed by the **SongSel** tab in the display.

2. Press the **New** button in the display, followed by the **OK** button. The D16 will automatically select the next-available empty song location (IXXX : NEW SONG).

Note: This page lets you select the type of recording you are going to perform, and lets you copy the MixerSet settings from the previous song, if desired. For now, leave the radio buttons set as they are: 16Bit / 16Track and New MixerSet.

Rename the new song:

1. Press the **Rename** button in the display.

2. Press the **ClearAll** button, then press the **A…/ a…** button to insert letters in the name field (press the **A…/ a…** button repeatedly to select between upper and lower case characters).

3. Rotate the **DIAL** to change characters, and use the **< >** buttons to move the cursor left or right in the song name field. Use the **0..9** and **Mark** buttons to change character types, and press the **Space** button to insert spaces in the name field.

4. When you've finished inputting characters, press the **OK** button to name the new song (We suggest something like " HELP ME!!! ").

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Basic Recording

*To get started, you'll use the **new song** you just created, and record basic tracks. For the following exercises, you'll need a **lo - impedance microphone** and **headphones**. You can use an electric guitar or another mono output instrument if you like; however the steps in each exercise refer to the use of an external microphone…*

Connect your microphone and set the input level:

1. Lower the **MASTER Fader** and **all** the **Channel Faders** to "**oo**".
2. Connect your mic to **INPUT 1** (XLR) on the front panel.
3. Press the **TRACK STATUS** key for track **1** repeatedly, until it's LED lights **RED**.
4. Move the **Channel Fader** for **TRACK 1** up to the "**0**" position, and set the **BALANCE** knob to center.
5. Rotate the **PHONE LEVEL** knob to it's lowest position (0), and raise the **Master Fader** to the "**0**" position.
6. Speak into the mic, and raise the **PHONE LEVEL** knob to a comfortable listening position.
7. Rotate the **INPUT 1 TRIM** knob as high as possible without allowing it's LED to light red (input clipping), and adjust the **PHONE LEVEL** again, if needed.

Check the Pre Fader Level:

1. Press the METER / TRACK VIEW key.
2. Press the **Popup button** in the upper-left of the display, and press the **PreFdr radio button** in the menu, followed by the **OK** button. Now speak into your mic, and watch the Pre Fader level meter as you speak.
3. If the **CLP** indicator flashes, lower the **INPUT 1 TRIM** knob. When you have plenty of input signal (-6dB), with no clipping…

Record Track 1:

1. Press the **REC** key.
2. Press the **PLAY** key and then **record** some measures (Example: "This is Track 1…recording Track 1.."), etc. While you're recording, watch the **Counter** run in the display, and record for about 8 measures.
3. When you're finished, press the **STOP** key, then press the **IN / LOC1** key (lit) to **reset** the song to the beginning (check the Counter: 001.01.000).
4. Press the **PLAY** key to hear your new track, then press **STOP** key.

*Note: Later, you can hold **STOP** and press **REW once** to go to the beginning of the song, if you stop playback or recording at a point further into the song. **For now, use the IN / LOC1 key.***

Select another track for recording:

1. Press the **IN / LOC1** key (lit).
2. Press the **Track 1 TRACK STATUS** key two times, until it's LED lights **GREEN** (play status).
3. Press the **Track 2 TRACK STATUS** key repeatedly, until it's LED lights **RED** (record status).

Set the input assignment for Track 2:

1. Press the **INPUT** key, then press the **Ch1-8** tab in the display.
2. Press the **Ch2** icon, then rotate the **DIAL** to the left, until the **Ch2** input icon reads "**1**". *You've just eliminated the need to re-patch your mic to another analog input!*
3. Speak into your mic and gradually raise the channel **2 Fader** to the "**0**" position. Then set the **BALANCE** knob to center. You've already set the input gain for analog input 1, so there's no need to worry about adjusting trim or clipping on the new track.
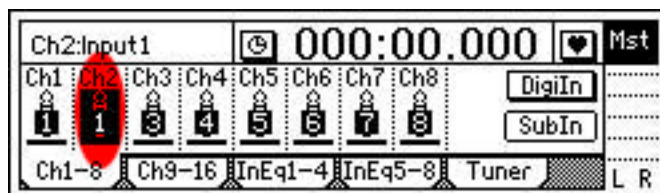
> *TIP: Connect keyboards and MIDI gear to the D16 rear panel inputs, use the front panel inputs for gear you may need to change-out on occasion. Leave the MIDI gear connected permanently to the rear inputs. As you create new tracks, simply assign any input to any channel in the Input Assign page.*

Record Track 2:

1. Press the **METER / TRACK VIEW** key, then press the **REC** key**.**
2. Press the **PLAY** key and record another vocal track. **Watch the counter**, and record for about the same amount of time as the first track (lower the TRACK 1 Fader if that track's playback is too loud).
3. When you're finished, press the **STOP** key, then press the **IN / LOC1** key (lit) to **reset** the song to the beginning.
4. Press **PLAY**, and you'll hear both tracks playback.
5. Press **STOP**.

Recording with EQ On – Input:

1. Press the channel **2 TRACK STATUS** key two times, until it's LED lights **GREEN** (play status).
2. Press the **INPUT** key, and make sure that the **Ch1-8** tab is selected in the display.
3. Press the **Ch3 icon**, then rotate the **DIAL** to the left, to set the analog input to "**1**". (Again, you've bussed the signal from analog input 1 to Channel (track) 3 on the D16).
4. On the front panel, press the channel **3 TRACK STATUS** key repeatedly, until it lights **RED** (record status).
5. Gradually move the channel **3 Fader** to the "**0**" position, center the **BALANCE** knob, and test your mic to confirm input.
6. Press the InEq1-4 tab in the display.
7. Press the **Input 1 EQ** "knobs" in the display, and rotate the **DIAL** to make changes to each as you test your mic. The **upper-left of the display** will indicate each change you make.
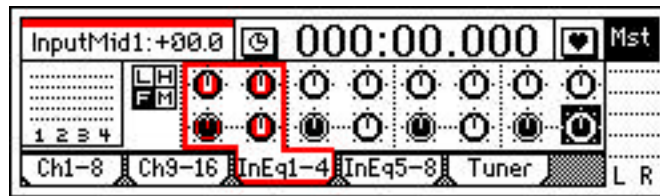
Record Track 3 with EQ:

1. Make sure that you're at the beginning of the song. (Press **IN / LOC1**).
2. Press **REC**, then press **PLAY**, and **record Track 3** for about 8 measures (the applied EQ will be recorded as well).
3. Press **STOP**, then press **IN / LOC1** to reset to the beginning of the song.
4. Press the **Track 3 TRACK STATUS** key two times, until it lights **GREEN** (play status).
5. Press the **PLAY** key to hear all three tracks, then press the **STOP** key.

Note: For most applications, EQ should only be applied on playback and at final mixdown, to avoid inputting additional noise to the track being recorded.

You could easily-record again - over any track, and erase the previous take…

or you could select up to 8 VIRTUAL TRACKS per track, record on each, then pick your

favorite - a great feature of the D16! Virtual tracks will be covered soon…

- but for now, take a close look at another great D16 feature…

Working with the UNDO / REDO function:

1. Press the **UNDO** key (lit).

2. If you've followed this guide step-by-step, you'll see **3** levels in the display - a "list" of what you've accomplished (recording tracks) thus-far in your new song.

3. Press to highlight **Level01**. That's the **last** track (Track 3) that you recorded.

4. Press the **Undo** button **in the display**, then press the **OK** button.

5. Press **In / LOC1**, then press **PLAY** and you'll only hear Tracks 1 and 2 playback.

6. Press **STOP**, then press the **UNDO** key again, and make sure that **Level01** is still highlighted in the display.

7. Press the **Redo** button, followed by pressing the **OK** button.

8. Press **In / LOC1** again, and press **PLAY**, and you'll hear all three tracks again.

Current: Level00		OK
Level00: RecordTrack	⬆	
Level01: RecordTrack		Undo
Level02: RecordTrack	⬇	Redo
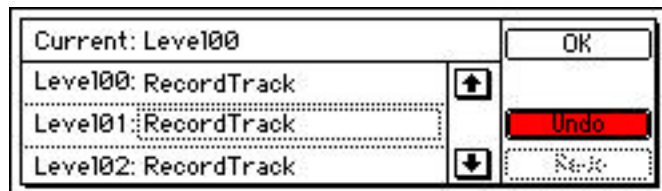
99 levels of UNDO / REDO! And with TouchView, it's easy to keep "track" of your tracks

and editing procedures on the D16! The previous example shows you the basics about

UNDO / REDO. When you spend some more time with the D16 - especially in track and

Note: You'll find more information about the Undo function on pages 10 and 73 in the D16 owner's manual.

Working with the Manual Punch In - Out function

There's nothing more frustrating than making a mistake midway in a track, and then having no other means to correct it, other than to re-record an entire new take. The D16 easily - solves this issue with Manual and Auto Punch In and Out!

Manual Punch In - Out:

-Lets you Punch In - Out "on - the - fly".   *You'll work with Track 3 for this exercise…*

1. Press the **SONG** key, and make sure that the **SongSel** tab is selected in the display.
2. Record - enable **Track 3** (**TRACK STATUS** key **RED**), and don't change previous input level or EQ settings for this track!
3. Press **IN / LOC1** to reset the song to the beginning.
4. Press **PLAY** and listen to Track 3 - if you like, you can quickly - **mute tracks 1 and 2** by pressing their **TRACK STATUS** keys until they're both **unlit**.
5. Watch the **Counter** and make a decision where you want to manually punch-in and out (Example: between measures 002 and 004). When you know, press the **STOP** key, then press the **IN /LOC1** key to reset the song to the beginning.

Now to Punch In - Out:

1. Press the **PLAY** key, and **watch the Counter**. When you're ready to punch-in…
2. Press the **REC** key, and **record** your voice again (Example: "Punch in on track 3…"), etc.
3. When you've reached the point where you want to punch -out, press the **REC** or **PLAY** key, and normal playback will continue. (If you want to re-record the punch-in, restart the song and repeat from step 1)
4. **Un-mute** tracks **1** and **2** if they are muted (press the **TRACK STATUS** keys once, to light **GREEN**), then press the **In / LOC1** key to playback the song, complete with your punch-in.
5. Press the **STOP** key, then press the **Track 3 TRACK STATUS** key two times, until it lights **GREEN** (play status).

Note: You can connect and use a footswitch (sold separately) to manually Punch in - out. See the D16 Owner's manual (page 20) for more information.

Now you've learned how to manually punch in - out of a track. But wait! There's more! Its called AUTO PUNCH IN-OUT recording! First you'll need to know how to set LOCATE points…

Storing Locate Points

Locate points are used to:

- Instantly-move to a registered time location

- Loop playback in / out points

- Set in / out points for auto-punch recording

- Specify locations for track editing

- Set locations for song playback

Use the current song as an example:

1. Press the **SONG** key, then press the **SongSel** tab in the display.
2. Press to highlight the **Counter** (**001**.01.000) in the display.
3. Rotate the **DIAL** to the right, until the Counter reaches a position in time where you want to store a locate point. (Example: Move the Counter position to measure 002.01.000)
4. Press the **STORE** key, then press the **IN / LOC1** key. You've just registered a time location to this locate key.

Note: For the rest of the exercises in this Section, you'll need to hold the STOP key and press the REW key to reset the song to the beginning.

Store an "Out" point, so you can use the AUTO-PUNCH function:

1. Rotate the **DIAL** to the right, to your desired **OUT** point (Example: If you set 002.01.000 as your IN point, set measure 006.01.000 as your OUT point).

2. Store the OUT point by pressing the **STORE** key, followed by pressing the **OUT / LOC2** key.

View the new IN / OUT locations:

1. Press the **IN / LOC1** key - the **Counter** will jump to the registered time location.

2. Press the **OUT / LOC2** key - the **Counter** will jump to the registered time location.

There's a lot more to learn about Locate points - check out the D16 owner's manual

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Auto Punch In - Out Recording:

1. Record - enable **Track 2**, because you're going to use it for the Auto - Punch procedure (Press the **Track 2 TRACK STATUS** key two times, until it lights **RED** (record status).
2. Reset the song to measure **001.01.000**. (**Hold** the **STOP** key, then press the **REW** key **once**

REHEARSE the Auto-Punch before actually recording it:

1. Press the **RHSL** (Rehearsal) key (to the right of the **REC** key). The **RHSL** key's LED will light **GREEN**.
2. Press the **AUTO PUNCH** key. Then press to highlight the **AutoPunch:Off** button in the display - it will change to **AutoPunch:On**, and the **AUTO PUNCH** key will light. Note that your stored **In** /**Out** times are also displayed on this page.

3. Press the **REC** key, then press the **PLAY** key. You'll hear what was previously-recorded on **Track 2**, then, at your registered **IN** point, you can rehearse the AutoPunch-In. Continue speaking, and when the Counter reaches the registered OUT point, you'll hear the original Track 2 audio again, until two measures following the Punch-Out location. The Counter will then reset to measure 001.01.000, and playback will automatically stop.

RECORD the Auto Punch-In Out:

1. Press the **RHSL** key to turn off the Rehearsal function (unlit).
2. Press the **REC** key, then press the **PLAY** key, and record - your new vocal track will be inserted between the IN and OUT points. The D16 will stop recording and continue playback for two measures following the Punch-Out location, then playback will stop, and the Counter will reset to measure 001.01.000. (The **Post-Roll** time is already set to two measures - more on this "RolTime" function in a moment).
3. Press the **AutoPunch:On** button in the display, to turn **off** the Auto Punch function.
4. Press the **Track 2 TRACK STATUS** key two times, until it lights **GREEN** (play status).

> **Note:** *In the Auto Punch display page, you can set Pre and Post - Roll times to make it easier and more accurate to perform Auto Punch In - Out procedures. You can also view the Wave data of the track you're working with on this page, to set even more accurate In - Out points. See the D16 owner's manual (page 71) for more information.*

Storing Mark Points

With Mark Points, you can:

- Set100 locations within each song to quickly - go to specific sections

- Name your mark points for easy identification (like "Intro", "Verse", "Chorus", etc.)

STORE some Mark Points:

1. Press the **SONG** key, and make sure that the **SongSel** tab is selected in the display. (You'll use the same song for this exercise)
2. Make sure the counter is set to measure **001.01.000** (If not, reset it by **holding** the **STOP** key, and pressing the **REW** key **once**).
3. Highlight the **Counter** (**001**.01.000), then rotate the **DIAL** to measure **003.01.000** (or press the **FF** key repeatedly, until measure 003.01.000 appears in the display).
4. Press the **STORE** key (lit), then press the **MARK** key. The display will briefly-indicate the stored Mark point and time.
5. Press the **MARK** key to view your stored Mark point and it's location in the display.
6. Press the **SONG** key again, then reset the song to the beginning (**hold** the **STOP** key and press **REW**).
7. Press the **PLAY** key. Now you'll store a Mark point while the song plays back…
8. At any time during playback, press the **STORE** key, then press the **MARK** key. The display will briefly-indicate the newly stored Mark point and time.
9. **Store** one or two additional Mark points (step 8) while the song plays.
10. Press **STOP**, then reset the song to the beginning (**hold STOP** and press **REW**).

View all of the stored MARK points:

1. Press the **MARK** key.
2. Slowly rotate the **DIAL** to the left, to view each of the Mark points you've stored.

Rename a MARK point:

1. Select one of the Mark points (Rotate the **DIAL** to select any one of the Mark points in the display), then press the **Rename** button in the upper-right of the display.

2. Press the **ClearAll** button to clear the current name field.

3. Input new characters to name the Mark point (Example: "**VERSE 1**"). Use the **< >** and **Space** buttons to move the cursor left or right in the song name field, and press the **A../ a..**, **0..9** or **Mark** (symbol) buttons to choose the character type.

4. When finished, press the **OK** button. Your newly named Mark point will appear in the display, along with its registered time location.

---

*Note: To recall a stored Mark point, highlight it in the display, then press the **Recall** button - the Counter will indicate that you've recalled the registered time location of the selected Mark point, and you can playback, record or edit from that point!*

Working with Scene Memory

The D16 features100 Scene Memory per song! That's "snapshot" automation of many

functions, and Scenes can be recalled automatically during playback - even named!

In a Scene, you can store:

- Channel Fader and Pan settings

- Channel Pairing

- EQ settings

- Insert Effect Assign, Effect Type, Insert To, and Effect Program

- Master Effect Send levels, Effect Program and Effect Return levels

- Final Effect Program

- Aux Send levels

- Scenes can also be changed via MIDI program change messages!

Note: The D16 provides Scene Filtering so that you can select whether or not any of the above functions get stored in a Scene. See the owner's manual (page 65) for more information.

Playback the song and adjust mixer settings:

1. Press the **SONG** key, then restart the song from the beginning (**hold** the **STOP** key and press the **REW** key **once**, then press the **PLAY** key), and work with the **Channel Faders** and **Balance Knobs** until you are satisfied with the overall mix.

2. Press the **STOP** key, and reset the song to the beginning (**hold STOP** and press **REW once**).

Apply EQ on playback:

1. Press the **EQ / PHASE** key, then press the **Eq1-4** tab in the display.

2. Press the **PLAY** key.

3. **Apply EQ** to desired tracks (Press the **EQ** "knobs" in the display and rotate the **DIAL**) until you are satisfied with the EQ settings, then press the **STOP** key.
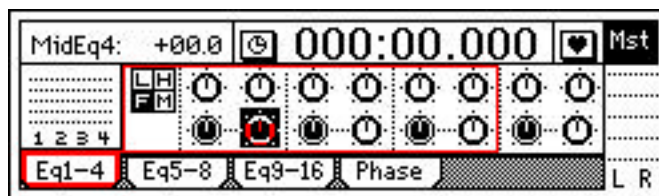
4. Reset the song to the beginning (**Hold** the **STOP** key and press the **REW** key **once**). The first Scene you're about to store will be located at the beginning of the song…

Now to store some Scenes:

1. Press the **STORE** key (it will light), then press the **SCENE** key. The display will briefly - indicate the stored Scene and Scene number.

2. Press the **FF** key **once**, to advance the song to measure **002.01.000**.

3. Move the **Channel Faders** to new positions.

4. Press the **STORE** key, then press the **SCENE** key. The display will briefly - indicate the next stored Scene and Scene number.

5. Press the **FF** key **once**, to advance the song to measure **003.01.000**.

6. Press **EQ** "knobs" in the display, and rotate the **DIAL** to make a few new EQ settings to the tracks.

7. Press the **STORE** key, then press the **SCENE** key. The display will briefly - indicate the newly - stored Scene and Scene number.

Playback your song, complete with Scenes:

1. Reset your song to the beginning (**Hold** the **STOP** key and press the **REW** key **once**).
2. Press the **SCENE** key (unlit), then press the **ReadDel** tab in the display.
3. Press to highlight the **SceneRead:Off** button in the display. The **SCENE** key will light.
4. Press the **PLAY** key to playback your song. The Scenes you stored will be recalled as the song plays, and each Scene and location will be indicated in the upper -right of the display during playback.

```
SceneNumber:    [▶]  Scene  [001] 000:00.000
[   SceneRead:Off   ]   [Rename][EditLoc][Delete]
[      Filter       ]             [Recall ][OvWrit.]
ReadDel MixView
```

Name one of the Scenes:

1. Press the **STOP** key to stop playback.
2. Press the **Rename** button in the display.
3. Press the **ClearAll** button in the display.
4. Input new characters to rename the Scene (Example: "**Intro Mix**"). Use the **< >** and **Space** buttons to move left or right in the song name field, and press the **A../ a..**, **0..9** and **Mark** (symbol) buttons to choose the character type.
5. When you've finished naming the Scene, press the **OK** button in the display.

You'll be viewing your new Scene name in a moment - Remain on the "Scene" page for now…

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Check out the MixView tab:

1. Press the **MixView** tab in the display. The currently - selected Scene's Fader and Pan settings are displayed.

You can't change mix settings or Scenes by pressing objects and rotating the DIAL

on this page or on by using the front panel controls - this is just a quick way

to view the selected Scene's mix…

…But you CAN playback your song, and view the Fader and Pan knob changes as

each Scene is recalled:

1. Reset your song to the beginning (**Hold** the **STOP** key and press the **REW** key **once**).
2. Press the **PLAY** key, and watch the **MixView** display - you'll see the mix settings change as the song plays back.
3. Press the **STOP** key.

View the Scene Names as the song plays back:

1. Reset your song to the beginning (**Hold** the **STOP** key and press the **REW** key **once**).
2. Press the **SONG** key.
3. Press the **Popup button** to the left of **Tempo Manu 120**.
4. Press the **Scene** radio button, then press the **OK** button.
5. Press the **PLAY** key to playback your song, and watch the display - you'll see each Scene number and name change in the display as the song plays.
6. Press the **STOP** key.

Loop Recording and Playback

Recording sources and monitoring: You'll be recording with an external microphone for some of the exercises in this section, so make sure to use headphones!

Note: When you power off the D16, hold down the POWER key for a few seconds, until the display prompts you with "Power Off: Are You Sure?" Then press "Yes" to power-off. The D16 will Auto-Save any work you've done to that point - before it powers-down.

Working with the Loop Functions

In order to use the Loop Playback / Record functions on the D16, you'll need to set specific

IN and OUT points in a song. The following exercises will familiarize you with the Loop

Playback / Recording and the Scrub function, when used with Loop Playback…

The Loop Playback Function lets you:

- Loop a range of time specified by the registered IN and OUT points in the song

- Listen to, and rehearse along with intricate solo lines, etc.

Create a new song and set IN and OUT Points:

1. Press the **SONG** key, then press the **SelSong** tab in the display. (Any currently-selected song is fine)
2. Press the **New** button, then press the **OK** button in the display. The D16 will automatically select the next-available empty song location.
3. Press the **STORE** key (it will light), then press the **IN / LOC1** key (it will light), to set an **IN point** at measure **001.01.000**.
4. Press to highlight the **Counter** (**001**.01.000) in the display, then rotate the **DIAL** to the right, until the Counter reads **005**.01.000.
5. Press the **STORE** key, then press the **OUT / LOC2** key, to set the **OUT point** at measure **005.01.000**.
6. Press the **LOOP** key. You'll see the registered **IN** and **OUT** Points in the display.
7. Press to highlight the **Loop:Off** button in the display. The **LOOP** key will light.
8. Press the **PLAY** key, and watch the Counter - measures 1-4 will loop repeatedly.
9. Press the **STOP** key, then press the **Loop:On** button in the display to turn **off** loop playback.

Good! But what fun is it without some audio to work with? Get ready to be "accelerated"

through some great D16 features and functions! First, you'll copy one of the factory

demo songs to a new song location and un-protect the copied song…

Copy a demo song to a new location:

1. Press the **SONG** key, then press the **SelSong** tab in the display.
2. Rotate the **DIAL** to the left, until song **I001: Alone** appears in the display, and those famous Korg Inc. words "NowSongLoading" appear briefly.
3. Press the **EditSong** tab in the display, then press the **Popup button** to the left of the current Edit List selection.
4. Press to highlight **Copy**, then press the **OK** button.
5. Press the **Exec.** button in the display - don't worry, the D16 "knows" where the next-available empty song location is, as indicated in the display.
6. Press the **Yes** button in the dialog box, then press the **OK** button to confirm the copy procedure. "NowSongLoading" will appear briefly.
7. Press the **SelSong** tab, and you'll see the results of your efforts - Song I001: Alone has been copied to the new song location. Just like the original, the new copy is still protected. That's the next step…

Un-protect the copied song:

1. Press the **EditSong** tab in the display, then press the **Popup button** to the left of **CopySong**.
2. Press to highlight **Protect**, then press the **OK** button.
3. Now press the **Exec.** button in the display - to the right of the "padlock" icon (protect). The icon will disappear.
4. Press the **SelSong** tab in the display. Now you can work freely with the copied song.

Change the Counter Time Display Type:

The original factory demos all display the time in real time - now you'll set the copied song so

the Counter reads in measures, beats and ticks:

1. Press to highlight the **"clock"** to the left of the **Counter**.
2. Press to highlight **001.01.000** in the display, then press the **OK** button. The Counter will now read in units of measures, beats and ticks.

Rename the copied song:

1. Press the **Rename** button in the display.

2. Press the **>** button **five** times, to reach the first empty space following **Alone**.

3. Using the **A../ a..** button (toggle to select upper and lower case), **DIAL**, and the **>** button to move through the name field, and **input the following characters**: **l > y > R > e> p**.

4. Press the **OK** button in the display, and your copied song will be renamed appropriately.

Take a break, and listen to this fine demo song:

1. Press the **PLAY** key and confirm that your copied song is intact, and raise the **MASTER Fader** and **PHONE LEVEL** knob to comfortable listening levels. Don't worry about the position of the Channel Faders at this point, because the mix was previously stored as a Scene in the original song location, as indicated by the **SCENE** key (lit).

2. Listen to the lead vocal line carefully, because you're going to be **recording your own lead vocal** over this track - very soon (just kidding)!

3. Press the **STOP** key when you've finished listening to the demo song.

OK..the next sections get a little "deeper", so hang in there and follow the steps closely…

Set Loop Playback on a track, and work with the Wave and Scrub functions:

1. Press the **IN /LOC1** key, to locate to measure 001.01.000.

2. Press the **LOOP** key, then press the **Wave** button in the display.

3. Press the **Popup button** to the left of the current **Trk** that is indicated in the lower right of the display, and from the dialog box, press to highlight **Trk6**.

4. Press the **OK** button in the display to confirm that you want to view the waveform data for Track 6 (the lead guitar track). Note that the **SCRUB** key lights.

5. Notice the **waveform** display. Press the "**zoom**" buttons in the bottom of the display, to increase or decrease the waveform view - horizontally and vertically.

6. Raise the **Track 6 Channel Fader** to the "**0**" position.

7. Slowly-rotate the **DIAL** to the right, to **Scrub** the audio data, until the vertical line (crosshair) reaches approximately **002.01.078** (watch the **In:** time in the upper-left of the display) - the IN time suggested is in the **first** dominant waveform representation of Track 6.

Continue working with the Scrub function in Loop Playback mode:

1. Press the **PLAY** key, **watch** the waveform display, and listen: Track 6 plays from the IN point at normal speed for **two seconds**, then automatically stops (because the Scrub function is on).
2. Now **hold** the **STOP** key and press the **PLAY** key. The audio data will play at normal speed, from two seconds **before** the registered IN point, and then playback will stop.
3. Press to highlight the **Out: 000.000.000** time in the display, and rotate the **DIAL** to scrub the audio, until the **Out:** time reaches approximately **003.01.087**. If you go past this Out time, rotate the DIAL to the left.
4. Press the **PLAY** key. The audio data will play from that point at normal speed, for two seconds, then stop.
5. **Hold** the **STOP** key and press the **PLAY** key. The audio data will play at normal speed, from two seconds before the OUT point and then stop.
6. Press the **OK** button in the display, and note the registered **IN** and **OUT** time in the display.
7. Press the **Loop:Off** button in the display, and the **LOOP** key will light.
8. Press the **PLAY** key. Now the registered time will loop repeatedly.
9. After you've listened to the loop, press the **STOP** key, then press the **Loop:On** button in the display to exit Loop Playback mode.

Tip: By using the WAVE and SCRUB functions, you can be more precise in locating IN and OUT points to set for Loop Playback (and Loop Recording). You can register IN and OUT Points while the D16 is stopped or during playback, first by using the STORE and IN / OUT keys, and then by "fine-tuning" the loop points with the WAVE and SCRUB functions.

Set IN and OUT points while the song plays back:

1. Press the **SONG** key, then locate to measure **001.01.000**, by **holding** the **STOP** key and pressing the **REW** key **once)**.
2. Press the **PLAY** key, and listen to the song to get a feel for the rhythm. While the song plays, press the **STORE** key, followed by pressing the **IN / LOC1** key, to store an IN point wherever you like.
3. Continue to let the song play, and in that same "perfect tempo you were born with", press the **STORE** key, followed by pressing the **OUT / LOC2** key, to store the OUT point wherever you like.
4. Press the **STOP** key, then press the **LOOP** key.
5. Press the **Loop:Off** button in the display, and the **LOOP** key will light.
6. Press the **PLAY** key and the registered IN and OUT time will loop repeatedly.
7. Press the **STOP** key, then press the **Loop:On** button in the display to turn **off** Loop Playback.

> *Note:* *You can re-set IN and OUT points as many times as you like, while the song plays back. Each time you do, the previous IN and OUT points will be overwritten. You can set the IN and OUT points "on-the-fly", as above, and then be more precise in the Loop Wave mode.*

> *Note:* **Loop Recording** *is used in conjunction with the* **Auto Punch** *function. For more information, see the D16 owner's manual (page 72).*

> *Note:* **Trigger Recording** *is used to initiate recording when the input exceeds a set threshold level. See the D16 owner's manual (page 73) for more information.*

Working with Virtual Tracks

The D16 features 8 Virtual tracks for every track - that's128 Virtual tracks per song! Virtual tracks give you the benefit of being able to record several takes without overwriting any previous takes. Then you can select from your favorite Virtual track(s) for playback, bouncing or mixdown.

Create a new song and record some audio:

1. Press the **SONG** key, then press the **New** button in the display.
2. Press the **OK** button in the display to create a new song.
3. Lower the **MASTER Fader** and **Channel Faders** to their **minimum** positions.
4. Connect a lo-impedance microphone to the D16 **INPUT 1** XLR connector, and **center** the **Track 1 PAN** control.
5. Press the **INPUT** key, and make sure that **Input 1** is routed to **Ch1** - if not, press to highlight the **Ch1** "jack" **icon**, and rotate the **DIAL** to the left, to set the input to **1**.
6. Press the **Track1 TRACK STATUS** key **two times**, until the LED lights **RED** (record status).

> *Note:* *If Track 2's RED LED lights as well, press the* **RECORD** *key and set the* **RecMode** *to* **Input***.*

7. Press the **METER / TRACK VIEW** key, then set your input gain while speaking into the mic, by adjusting the **INPUT 1 TRIM** knob and watching the TRIM LED to avoid input clipping.

8. Set the **Pre Fader** view in the display - press the **Popup button** in the upper-left of the display, and press to highlight **PreFdr**, followed by pressing the **OK** button in the display. Make sure to set the input gain so that clipping does not occur (watch the TRIM LED and PreFdr "CLP" indicator line as you speak).

9. Raise the **Track 1 Fader** to the "**0**" position, then slowly-raise the **MASTER Fader** and **PHONE LEVEL** knob to a comfortable listening position.

10. Press the **Popup button** to the left of **PreFdr** in the **METER VIEW** page, then press to highlight **PostFaderLev**, followed by pressing the **OK** button in the display.

11. Check your mic, and watch the **Post Fader** level meter. Make sure that clipping does not occur due to the Track 1 Channel Fader position.

12. Press the **REC** key, then press the **PLAY** key, and **record** about <u>**6 - 8** measures</u> of your voice (Example: "This is Track One", etc.), then press the **STOP** key.

13. Press the **IN /LOC1** key to locate to measure 001.01.000.

Select a new Virtual track to record a second take:

1. Press the **TRACK** key, then press the **Vtr1-8** tab in the display.

2. Press the **PLAY** key to hear the first track. Note the highlighted **1a** in the left column of the display. The entire top "bar" is black in this column, because you just recorded on Virtual track **1a**.

3. Press the **STOP** key, then press the **IN /LOC1** key to locate to measure 001.01.000.

4. Slowly-rotate the **DIAL** to the right (one click) until the upper-left of the display reads **1b** (Virtual track "**1b**").

5. Press the **METER / TRACK VIEW** key, then press the **REC** key.

6. Press the **PLAY** key, and record another <u>**6-8** measures</u> of your voice on Virtual track **1b** (Example: "This is Virtual track 1b", etc.).

7. Press the **STOP** key, then press the **IN / LOC1** key to locate to measure 001.01.000.

8. Press the **PLAY** key to hear Virtual track **1b**, then press the **STOP** key. Leave the cursor set at **1b**.

9. Press the **TRACK** key, and take a closer look at the display. Notice that the two Virtual tracks you just recorded indicate recorded audio data (by the small bars) on the left of the Track **1** column.
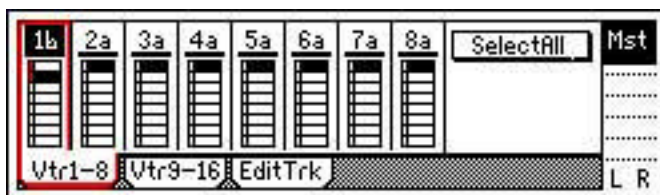
Track Bouncing:

The D16 features a number of ways to bounce multiple tracks, including a 14-2 function

(bounce up to 14 tracks down to two tracks), plus the ability to bounce 16 tracks down to

two currently selected tracks. Best of all, the D16 provides an "exclusive" feature:

A "16-2" function that lets you select Virtual tracks as the destination bounce tracks.

This means you can bounce multiple16 track mixes down to two selected Virtual tracks,

complete with varied effects and EQ, if desired, and then select your favorite mixdown

from the Virtual tracks!

```
RecVTrk:Current  🕐  000:00.000        Mst
BounceMode: ◉14Tr+2In→2Tr  ◯  16Tr→2Tr
RecordVirtualTrack:   Current
RecMode Bounce                         L R
```

Record on Track 2:

1. Press the **Track 1 TRACK STATUS** key **two times**, until the LED lights **GREEN** (play status).
2. Press the **Track 2 TRACK STATUS** key **two times**, until the LED lights **RED** (record status).
3. Press the **INPUT** key, then press to highlight the **Ch2 icon**, and rotate the **DIAL** to the **left**, until you assign Input **1** to **Ch2**.
4. Raise the **Track 2 Channel Fader** to the "**0**" position, and center the **PAN** knob.
5. Press the **METER /TRACK VIEW** key, check your mic, and watch the **Post Fader** level meter. Make sure that clipping does not occur due to the Track 1 Channel Fader position.
6. Make sure to locate the song to the beginning (press the **IN / LOC1** key).
7. Press the **REC** key, then press the **PLAY** key and record about **6 - 8** measures of your voice (Example: "This is Track 2a", etc.). You'll hear Track 1b playback as you record - lower it's Fader if needed.
8. Press the **STOP** key, then press the **IN / LOC1** key to locate to measure 001.01.000.
9. Press the **Track 2 TRACK STATUS** key **two times**, until the LED lights **GREEN** (play status).
10. Press the **PLAY** key to hear your tracks, then press the **STOP** key and press the **IN /LOC1** key to locate to measure 001.01.000.

Bounce 2 Tracks to Tracks 15 / 16:

You'll be using one of Track 1's Virtual tracks, plus the audio you just recorded on Track 2 for

the following steps…

1. Press the **RECORD** key (to the left of the **TRACK** key), then press the **RecMode** tab in the display.
2. Press to highlight **Bounce** in the display to select Bounce as the record mode.
3. Press the **Bounce** tab in the display, then press to highlight **14Tr+2In>2Tr**.
4. Press to highlight the Edit Field to the right of **RecordVirtualTrack:**, and if **Current** is not selected, slowly-rotate the **DIAL** to the left until you select **Current** as the Record Track.
5. Press the **TRACK** key, then press the **Vtr1-8** tab in the display.
6. Make sure Virtual track **1b** is highlighted in the upper-left (if not, slowly-rotate the **DIAL** to the right to select Virtual track **1b** as the track you'll be bouncing.
7. Set the **PAN** knob for **Track 1** to the far-left position, then set the **PAN** knob for **Track 2** to the far-right position, and make sure both track's LED's are set to play status (GREEN).
8. Press the **Track 15 / 16 TRACK STATUS** key **two times**, until it lights **RED** (record status).
9. Raise the **Track 15 / 16 Channel Fader** to the "**0**" position, and make sure that its **BALANCE** knob is set to **center**.
10. Press the **METER /TRACK VIEW** key.
11. Press the **IN /LOC1** key to locate to measure 001.01.000, then press the **REC** key, followed by pressing the **PLAY** key. Tracks **1b** and **2a** are now being bounced to Tracks 15 / 16 (the MASTER Fader controls the level to Tracks 15 / 16, as indicated by the **Mst** level in the display).
12. When finished, press the **STOP** key, then press the **IN / LOC1** key to locate to measure 001.01.000.
13. Mute both **Tracks 1** and **2,** by pressing each **TRACK STATUS** key **two times**, until the LED's are **unlit**.
14. Press the **PLAY** key, to hear the bounced audio data playback on **Tracks 15 / 16**.
15. Press the **STOP** key, then press the **IN /LOC1** key to locate to measure 001.01.000.
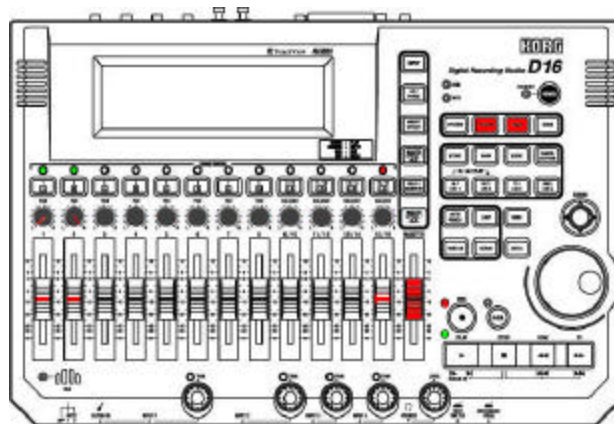
Perform a Virtual 16-2 Mixdown:

For the next exercise, you'll copy a factory demo song to a new song location, then

bounce all 16 tracks of audio down to 2 Virtual tracks…

Copy a demo song to a new location:

1. Press the **SONG** key, then press the **SelSong** tab in the display.
2. Press the **Popup button** to the left of the current song name, then **repeatedly -press** the ⬆ **Popup button** in the right of the display to scroll up in the song list, until song **I002** is highlighted.
3. Press the **OK** button in the display to load the demo song: **I002: Clarity**.
4. Press the **EditSong** tab in the display, then press the **Popup button** to the left of the current Edit List selection.
5. Press to highlight **Copy**, then press the **OK** button.
6. Press the **Exec.** button in the display - a dialog box appears, prompting you to "CopySong: I002 Clarity > IXXX" (the next available empty song location).
7. Press the **Yes** button in the dialog box, then press the **OK** button to confirm the copy procedure. "NowSongLoading" will appear briefly.

Un-protect the copied demo song:

1. Press the **Popup button** to the left of **CopySong** in the display.
2. Press to highlight **Protect**, then press the **OK** button in the display.
3. Now press the **Exec.** button in the display - to the right of the "padlock" icon (protect). The icon will disappear.
4. Press the **SelSong** tab in the display. Now you can work freely with the copied song.

Rename the copied song:

1. Press the **Rename** button in the display, then press the **>** repeatedly, until you highlight the first empty space following **Clarity**.
2. Press the **0..9** button in the display, then rotate the **DIAL** until the number **2** appears.
3. Press the **OK** button in the display, and your copied song will be renamed **"Clarity 2"**.

Set the Record mode and select the Virtual track for Bouncing:

1. Press the **RECORD** key (to the left of the **TRACK** key), then press the **RecMode** tab in the display.

2. Make sure that **Bounce** is selected in the display - if not, press to highlight it.

3. Press the **Bounce** tab in the display, then press to highlight **16Tr>2Tr**.

4. Press to highlight the Edit Field to the right of **RecordVirtualTrack** in the display, and slowly-rotate the **DIAL** to set this to "**b**" (Virtual track "b").

Note: The previous step is very important - if you leave the setting at "Current", and continue the Bounce procedure, you'll bounce all 16 tracks and overwrite the two existing record tracks! For Virtual mixdowns, always select Virtual tracks as the destination tracks! (See page 21 in the D16 owner's manual)

Select ALL tracks as Virtual tracks "a":

1. Press the **TRACK** key and make sure that the **Vtr1-8** tab is highlighted in the display.

2. Press to highlight the **SelectAll** button in the display (**important!)**. Make sure **1a**, **2a**, etc. are highlighted across the top of the display.
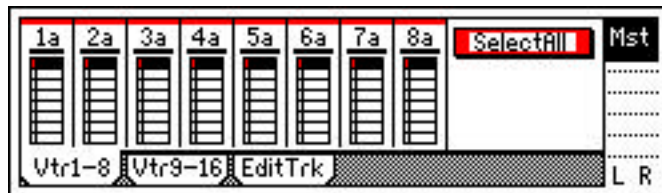
Record - enable Tracks 1 and 2 and perform the Virtual Mixdown:

1. Press the **Track 1 TRACK STATUS** key **two times** - the LED's for **both** Tracks **1** and **2** will light **RED** (record status).

2. Set the **PAN** control for **Track 1** to the **far-left** position, then set the **PAN** control for **Track 2** to the **far-right** position so that the mixdown will be performed in stereo.

3. Raise all of the **Channel Faders** to the "**0**" position, and raise the **MASTER Fader** to the "**0**" position as well (the MASTER Fader will control the overall mixdown level to the destination Virtual tracks (b).

4. Press the **METER / TRACK VIEW** key, so that you can view and work with the **Post Fader** levels during mixdown.

5. Press the **IN / LOC1** key to locate to measure 001.01.000.

6. Press the **REC** key, then press the **PLAY** key, and make any **Channel Fader** and **Pan / Balance** changes you like as the song mixes down to the two selected Virtual tracks. Remember that the MASTER Fader controls the level to the Virtual tracks - watch the **Mst** level in the display.

7. When finished, press the **STOP** key, then press the **IN / LOC1** key to locate to measure 001.01.000.

---

*Note: If you don't want to bounce-down the entire song, you can lower the **MASTER Fader** as you're bouncing (whenever you like) and perform a "fade-out" as part of the mixdown, then STOP and locate to measure 001.01.000.*

Listen to the new Virtual Mixdown:

1. Press the **TRACK** key, then press the **SelectAll** button in the **Vtr1-8** tab display.

2. Rotate the **DIAL** to the right (one click) to select Virtual tracks "**b**" for all tracks (this makes it quick and easy to audition Virtual tracks 1b and 2b, as you don't have to move any Channel Faders or play-enable Tracks 1 and 2 to hear the results).

---

*Note: The diagram below represents what you'll see after completing the previous two steps. **All** tracks show audio data has been recorded in the original "a" Virtual track columns (red), and that the "Virtual Mixdown" has been recorded on Tracks 1b and 2b (red):*

---
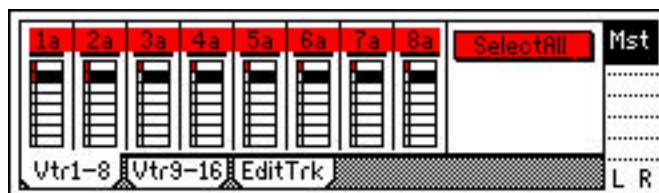
3. Press the **PLAY** key to playback your new "Virtual Mixdown", and raise the **MASTER Fader** to a comfortable playback level.

4. Press the **METER / TRACK VIEW** key to view the **Post Fader** Levels for Tracks **1b** and **2b**.

5. When you're finished auditioning the mixdown, press the **STOP** key, then press the **IN / LOC1** key to locate to measure 001.01.000.

---

*Note: You can use the **SOLO** function to listen to Tracks 1 and 2 - see the D16 owner's manual (page 84) for more information.*

---

*Tip: If you want to remix again, press "**Select All**" from the **TRACK** page, rotate the **DIAL** to select "**a**" as the Virtual tracks for all tracks, locate to measure 001.01.000 and re-record the mixdown. The alternative is to use the UNDO function, or to select bounce destination Virtual tracks "c" - "h" and finally select from your favorite mixdown. Just remember that the "a" Virtual tracks are the original audio tracks! See the D16 owner's manual (pages 19, 22 and 52) for more information on Virtual tracking and Bouncing.*

*TIP: You can record an additional "live" source to the destination bounce tracks **as** you are mixing down to your Virtual tracks! See the D16 owner's manual (page 21) for more information.*

Working with the Effects

The D16 features up to 8 insert effects per song - a huge collection of built-in world-class effect algorithms - all fully programmable! In addition, there are 2 Master Effects available for each song, with send level control for each track! And last but not least, there's a Final Effect for overall processing of your song during final mixdown! That's 3 simultaneous processors and up to 11 simultaneous effects for every song!

The factory demo songs (Alone, Clarity, Someday) do not have Insert Effects applied on playback, however some of the tracks in the songs have been recorded with Insert Effects on input. In the following exercises you'll be applying and editing Insert Effects on playback with one of the demo songs…

KORG

Familiarize yourself with the Demo Song:

For the following exercise, you'll copy the demo song: I001: Alone to a new song location…

Here's a Track Chart of the instruments that were used to record the song:

Song:	I001:Alone
Track:	Instrument:
1	Drums L
2	Drums R
3	Bass Guitar
4	Solo Elec Guitar
5	Elec Guitar1
6	Elec Guitar2
7	Elec Guitar3
8	Elec Guitar4
9 /10	Piano L / R
11 / 12	Vocal1 L / R
13 / 14	Vocal2 L / R
15 / 16	Organ L / R

Copy the demo song:

1. Press the **SONG** key, then press the **SelSong** tab in the display.
2. Press the **Popup button** to the left of the current song name, then press the ↑ button **repeatedly**, to scroll up in the song list.
3. When song **I001: Alone** is highlighted, press the **OK** button in the display.
4. Press the **EditSong** tab, then press the **Popup button** to the left of the current Edit Type selection.
5. Press to highlight **Copy**, then press the **OK** button in the display. The display will indicate the next-available empty song location.
6. Press the **Exec.** button, then press the **Yes** button in the dialog box, followed by the **OK** button.

Un-protect the copied song and change the Counter Time Display:

1. Press the **Popup button** to the left of **CopySong** in the display, then press to highlight **Protect**, followed by pressing the **OK** button.
2. Press the **Exec.** button in the display - the "padlock" will disappear and the copied song can now be edited.
3. Press the **SelSong** button in the display.
4. Press the "**clock**" to the left of the **Counter**, and press to highlight **001.01.000**, then press the **OK** button. Now the Counter will read in units of measures, beats and ticks.

Note that the SCENE key is lit - Fader and Pan / Balance positions, as well as Master

Effect send levels and Master / Final Effect numbers have been stored in this song,

with the SCENE memory function. You can override the Scene by working with the

Faders, Pan / Balance controls, etc.

Disable Scene Memory:

1. Press the **SCENE** key (lit), then press the **MixView** tab in the display, and note the stored settings for Fader and Pan / Balance controls. There is one Scene stored in this song, and each time you restart the song, that Scene will be recalled, so…

2. Press the **ReadDel** tab in the display, then press the **SceneRead:On** button in the display, to turn **off** Scene Memory for this song.

Playback the song, and view and work with the mix:

1. Press the **SONG** key, followed by the **PLAY** key.

2. Press the **METER / TRACK VIEW** key, and make sure that the display mode is set for **Post Fader**. Let the song continue to play, and…

3. Work with the **Channel Faders** and **Pan** controls to develop "your own" overall mix of the song.

Note: If the song ends before you've finished editing, press the IN / LOC1 key to restart.

When you're finished mixing and ready to store a new Scene at the beginning of the song…

4. Once you've created a mix you like, press the **STOP** key, then press the **IN / LOC1** key to locate to measure 001.01.000.

Store the new Scene:

1. Press the **STORE** key (it will light), then press the **SCENE** key to store a Scene at the beginning of the song. **Don't** enable Scene Memory at this time…

Now you'll work with the song - in particular the Insert Effects. You'll be isolating a couple

*tracks next…*

Work with the Lead Guitar Track:

1. Lower **all** the **Channel Faders** to their minimum positions, then press the **PLAY** key to restart the song.
2. Press the **METER / TRACK VIEW** key to view the **Post Fader** mix and…
3. Raise the **Track 6 Channel Fader** to the "**0**" position. Listen to the Lead Guitar track - note that some effect processing was applied to this track when it was originally recorded.

Set Loop Playback for the Track:

1. Press the **STOP** key, then press the **IN / LOC1** key to locate to measure 001.01.000.
2. Press the **SONG** key, then press to highlight **001**.01.000 in the display.
3. Press the **FF** key **once**, to advance the Counter to measure **002.01.000**.
4. Press the **STORE** key, then press the **IN / LOC1** key, to store the IN point.
5. Now slowly-rotate the **DIAL** to the right, until the Counter reads **013.01.000**.
6. Press the **STORE** key, then press the **OUT / LOC2** key, to set the OUT point. Now you can set Loop Playback for the song, and concentrate on working with the Insert Effect you'll apply to the track.
7. Press the **LOOP** key, then press the **Loop:Off** button in the display to enable Loop Playback (the LOOP key lights).
8. Press the **PLAY** key - the track will loop continuously as you work with the next exercises…

Working with the Insert Effects

Assign Insert Effects for Playback and set the Routing:
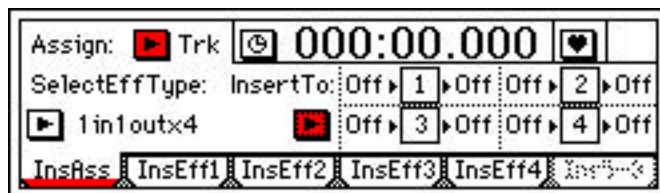
1. Press the **INSERT** key, then press the **InsAss** tab in the display.
2. Press the **Popup button** to the left of the current **Assign:** setting in the display, then press to highlight **PlayTrack**, and press the **OK** button in the display. The **Assign**: setting will indicate "**Trk**".

# *A better understanding of the D16 Insert Effect Routing…*

There are four configurations available in the Select Effect Type menu:

- *1in2outx2: Primarily Guitar and Bass Chains of 3-5 effects each - For Insert Effect assignment as you record ONLY - good for mono-in / stereo-out sources*

- *2in2outx2: Great for keyboards and stereo-in / stereo-out instruments*

- *1in1outx4: The default setting, and the one you'll use in the following exercise. Good to use for fixed panning sources like rhythm guitar - selecting this configuration lets you select from four mono Insert Effects to be used in the song.*

- *1in1outx8: The largest configuration of multiple effect choices - use this one when you need up to eight mono effects in a song - ideal for fixed pan sources that need effect isolation - like drums.*

Although you won't be changing the Effect Type configuration right now, its good to know when and where to apply the four types. 1in1outx4 is the default setup in a new song, as indicated in the display…

Set the Insert Effect Assign Channel:

1. Press the **Popup button** just below the **Insert To:** Edit Field in the display (see the previous graphic).
2. Press to highlight the **Off** value to the left of **1** in the display, then slowly-rotate the **DIAL** until the display indicates **6** (see graphic below).
3. Press the **OK** button in the display. You've just assigned Insert Effect **1** to Channel **6**.
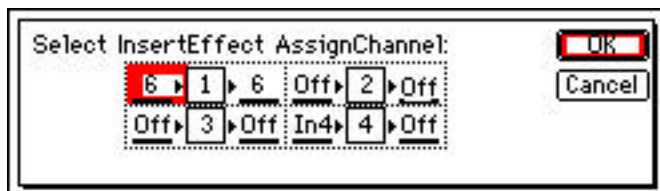
Try out some Insert Effects on the Guitar Track:

1. As the track plays, press the **InsEff1** tab in the display.

2. Make sure that the **effect number** to the left of the current effect selection is highlighted, then slowly-rotate the **DIAL**, to access and listen to different Insert Effect programs while the track loops.

TIP: Bring the Channel Faders for the other tracks back into the mix (or use the SOLO function), to see how your selected effect works along with the rest of the instrumentation.

Edit the Insert Effect you've chosen for this track:

1. Press the selected Insert Effect program **button** in the display (the name of the effect selected), then press to select one of the effect **icons**. The edit parameters for the selected effect will be indicated in the display.

2. Press to highlight desired effect parameters, and rotate the **DIAL** to make changes. Once you're satisfied with the settings you've made, press the **OK** button **two times** - in the upper-right of the display. The previous Insert Effect program number will indicate **EDIT** in the display.

Store the edited Insert Effect:

1. Press the **Store** button in the display. A dialog box appears, and the first of 128 User Programs is highlighted in the display (**U001**).

2. Rotate the **DIAL** to select Program **U100**, then press the **Exec.** button to store the new effect. If you like, you can also **Rename** the new Effect in the same way as naming songs, locate and mark points.

3. Press and **hold** the **STOP** key, then press the **REW** key **once**, to reset the song to the beginning.

More Insert Effect application and study suggestions:

- *Try assigning additional Insert Effects to specific channels, and selecting / editing various effect programs.*

- *Work with the Insert Effects in "on-input" recording applications - try out the 1in2outx2 configuration with guitar and bass to access some of the chained effects for these instruments.*

- *Work with additional Effect Type configurations in recording and playback assignments.*

Note: *For more information on Insert Effects, see pages 29-32 and page 79 in the D16 owner's manual.*

Working with the Master Effects

Two Master Effect processors can be used simultaneously, with individual send levels

for each channel! - Used mainly for ambient processing of the overall mix - 32 Preset

programs plus 32 user programs available!

You'll use the currently selected song "Alone" for the following exercise…

View the current Master Effects and Send Levels:

1. Press the **MASTER EFFECT / AUX** key, then press the **MstEff1** tab in the display - note that Master Effect **M009 RV4: BrightPlate** has already been assigned - also note the **RetLev** (return level) and **RetBal** (return balance) "knobs" and the current settings in the display.
2. Press the **EffSnd1** tab in the display, and view the channel send levels ("knobs") to this effect.
3. Press the **MstEff2** tab in the display (**M021 DL6:AutoPanDelay**), then press the **EffSnd2** tab to view the send levels to this effect.

Enable Scene Memory and disable Loop Playback:

1. Press the **SCENE** key, then press to highlight the **SceneRead:Off** button in the display - to enable Scene Memory.
2. Press the **LOOP** key, then press to highlight to **Loop:On** button in the display - to disable Loop Playback.

Enable Channel Pairing to control effect send levels:

1. Press the **Channel Pairing** (heart) **icon** in the upper-right of the display, then press **Send**.
2. Press the **1   2** button in the display, then press the **OK** button to set Channel Pairing for the Track 1 and 2 send levels. Adjusting Track 1's send level in the following steps will simultaneously-control the send level for Track 2.

Work with the send levels:

1. Press the **PLAY** key, then press the **MASTER EFFECT / AUX** key.

2. Press the **MstEff1** tab, then press the **EffSnd1** tab.

3. Work with the mix: Lower the **Track 3-16 Channel faders** (or use the SOLO function) to isolate the drums on Tracks 1 and 2, then adjust the **Master Effect1** send levels for the drums - press the **Send1** "knob" in the display (indicated in the upper-left when you press a "knob") and rotate the **DIAL** to increase / decrease the send levels for Tracks 1 and 2.

4. Press the **STOP** key.

Note: Channel Pairing can be used with adjacent odd / even-numbered channels to simultaneously-control Track Status, EQ, Effect and Aux send, Pan and Faders. When enabled, the odd-numbered channel will control both channels. See the D16 owner's manual (pg. 26) for more information.

Note: When Scene Memory is enabled, the originally stored send levels will be recalled each time you restart the song. Disable Scene Memory if you want to spend more time working with various track send levels.

Additional suggestions:

Once you develop a new mix and send levels for your tracks, try storing a new Scene at the beginning of the song. Also try storing additional Scenes with new effect send levels, EQ, etc. at different locations, then playback the Song with the Scene Memory function enabled.

Working with the Final Effect

The Final Effect is an independent processor with 32 preset and 32 user effect programs available. Its at the end of the effect routing scheme in the D16, and is used for "mastering" and dynamics applications. During mixdown you can use a Final Effect to "polish" your mix as you master your work to external DAT, MD or CD.

Like the Master Effects, the currently selected song includes an already assigned Final Effect.

Check out this song's Final Effect:

1. Press and **hold** the **STOP** key, then press the **REW** key **once**, to reset the song to the beginning.

2. Press the **PLAY** key to playback the song.

3. Press the **MASTER EFFECT / AUX** key, then press the **FinalEff** tab in the display. Note that **F012 LS2:St.MBLimiter** has been assigned as the Final Effect for this song.

4. Press to highlight **F012** in the display, and slowly-rotate the **DIAL** to select and try some more of the Final Effects available.

5. Press the selected effect name program **button** in the display, then press the effect **icon** (s), and work with the effect parameters. When you're satisfied with the results, press the **OK** button in the display, and then press the **Store** button and rotate the **DIAL** to select one of the User Effect programs.

6. Press the **OK** button to write your new Final Effect into memory.

*Tip: You can use the **Bypass** button in the display to "toggle" between the original settings and your edits, when working with the Insert, Master and Final Effects.*

Note: *The factory User Effect programs for Insert, Master and Final effects are duplicates of the Preset Effect programs, so don't worry if you write over any User Programs - you can recall the original Presets at any time!*

*Tip:Use the **Rename** button in the display to name your newly-edited Insert, Master and Final Effects.*

Note: *Please be aware that any custom effect programming or new song data could be lost when new data is loaded into the D16. Use the backup / copy procedures to save your User effects and song data to external drives (see page 43 in the D16 owner's manual)*

KORG

Metronome and Pattern Applications

The following section deals with using the metronome and built-in PCM rhythm patterns in

a recording application.

Recording sources and monitoring for this section: If possible, use a guitar, bass or keyboard as the recording source for the following exercises. If you're not a player, and want to use a microphone as your source, no problem – just speak, sing, count…whatever you like – in time with the metronome / rhythm patterns.

Create a new song:

1. Press the **SONG** key, then press the **SelSong** tab in the display.
2. Press the **New** button, then press the **OK** button in the display to select a new empty song location.

Connect your source device:

1. Lower the **PHONE** level to "**0**", and **MASTER** / **Channel** faders to "**oo**".
2. Connect a guitar, bass, keyboard or microphone to **INPUT 1** on the front panel.
3. Press the **Track 1 TRACK STATUS** key **two times**, until it lights **red** (record status).
4. Rotate the **INPUT 1 TRIM** knob as high as possible without allowing it's LED to light red (input clipping), then raise the **Track 1 channel fader** to the "**0**" position. *Remember: You can view the Pre Fader level in the METER/TRACK VIEW display.*
5. Raise the **MASTER Fader** / **PHONE LEVELS** to comfortable listening positions.

Note: If desired, apply an insert effect to your source instrument (See the "Working with Insert Effects" section of this guide for more information). Otherwise, continue on with this exercise…

Work with the TEMPO / RHYTHM function:

1. Press the **TEMPO / RHYTHM** key. You'll hear the metronome, and the display will indicate the current settings. **Manual** is selected as the Tempo Source in the display, and the counter reads **001:01:000** (beats, measures and ticks) Make sure that the display reads like the example graphic below:

```
┌─────────────────────────────────────────────┐
│ TempoSource:  ┌─⊙ 001:01.000  Mute │
│ ┌─────┐  ┌──┐ ┌──────────┐  ────            │
│ │Tempo│  │ ►│ │  Manual  │  120   04/04     │
│ ├─────┤  └──┘ └──────────┘                  │
│ │Rhythm│      Metro4   Vol:  080   Rhythm:Off│
│ └──────┘      ──────         ───             │
│ ┌─────┬──────┬──────┐                       │
│ │SetUp│TmpMap│TmpTrk│                       │
│ └─────┴──────┴──────┘░░░░░░░░░░░░░░          │
└─────────────────────────────────────────────┘
```

2. To adjust the metronome volume level, press to highlight **Vol:XXX** in the display, then rotate the **DIAL**. (You can change this level at any time, if needed)

3. Press to highlight **Metro4** in the display. (You're listening to the standard metronome "click")

4. Slowly-rotate the **DIAL** to the right, to audition some of the metronome and PCM rhythm patterns in memory. The majority of rhythm patterns are straight "grooves" that you can play along with. *Note that some of the patterns are indicated as Intro, Fill, or Ending by an I, F or E preceding the pattern name.*

5. Play your source instrument along with the rhythm pattern you've selected to use, and adjust the metronome volume and Channel Fader to set the mix.

6. To adjust the tempo press to highlight **120** in the display, then rotate the **DIAL**. The display will indicate the new tempo setting.

7. To adjust the time signature, press to highlight **04/04** in the display, then rotate the **DIAL**. The display will indicate the new time signature. It's suggested that you use a setting of 04/04 for this exercise.

Note: For time signatures 3/4, 4/4 and 6/8, all patterns can be selected. If you choose any other time signature, only the Metro or Hihat can be selected.

Tip: A complete listing of the rhythm patterns in memory, including length and original tempo can be found on page 114 in the D16 owner's manual.

Note: You can mute and un-mute the metronome / rhythm pattern playback by pressing the Mute button in the upper-right of the display.

Record on Track 1 while listening to the metronome / rhythm pattern:

1. After you've selected the desired pattern and set your levels (make sure that Track 1 is record-enabled), press the **REC** key (the REC and PLAY keys LED's will flash).
2. Press the **Rhythm:Off** button in the display. You'll hear the pattern play.
3. Press the **PLAY** key and record your source instrument as the pattern plays.
4. Press the **STOP** key to stop recording, then press the **IN/LOC1** key to locate to the beginning of the song.
5. Press the **PLAY** key to playback the song. The pattern will playback along with your recorded track.
6. Press the **STOP** key to stop playback, then press the **IN/LOC1** key to locate to the beginning of the song.
7. Press the **Track 1 TRACK STATUS** key **two times**, until its LED lights **green** (play status).

---

*Note: You can mute and un-mute the metronome / rhythm pattern playback by pressing the **Mute** button in the upper-right of the display.*

Assign the metronome pattern to stereo tracks and set record levels:

You'll use the same song number as above, and re-record over the previous recording…

1. Make sure that you've located to the song beginning (step 6 above), then press the **Rhythm:Off** button in the display – if you don't do this, the recorded patterns will be doubled on the selected tracks and master L/R bus.
2. Lower the **Track 1 Channel Fader** to the "**oo**" position.
3. Press the **INPUT** key, then press the **Ch9-16** tab at the bottom of the display.
4. Press the **Ch15 icon**, then rotate the **DIAL** all the way to the right, to select **L** in the display.
5. Press the **Ch16 icon**, then rotate the **DIAL** all the way to the right, to select **R** in the display. Now the metronome has been routed to the Channel 15/16 inputs.
6. Press the **Track 15/16 TRACK STATUS** key **two times**, until its LED lights **red** (record status).
7. Press the **TEMPO/RHYTHM** key again, and raise the Track 15/16 **Channel Fader** to "**0**".
8. Make sure that the pattern is playing (**un-muted**), and that the display reads **Rhythm:Off**.
9. Press the **METER/TRACK VIEW** key, and adjust the channel fader to prevent clipping. When you're satisfied with the level, press the **TEMPO/RHYTHM** key.

Record the pattern:

1. Press the **REC** key, then press the **PLAY** key, and **record** the pattern to Tracks 15/16 for about **8** measures. Press the **STOP** key when you've finished recording.

2. Press the **IN/LOC1** key to locate to the song beginning.

3. Press the **Mute** button in the **TEMPO / RHYTHM** display, to mute the metronome playback.

4. Press the **Track 15/16 TRACK STATUS** key **two times**, until the LED lights **green** (play status).

5. Press the **PLAY** key to hear the recorded pattern playback, then press the **STOP** key, followed by pressing the **IN/LOC1** key to locate to the song beginning.

6. If you like, you can record-enable Track 1, raise it's Channel Fader and re-record your source instrument on Track 1, while Tracks 15/16 playback. Otherwise, continue on with the next exercise:

Note: EQ and Insert effects can be added to the recorded patterns, in the same ways as any other recording source.

Work with the Tempo Map function:

You can create a Tempo Map to change the tempo, time signature and rhythm pattern for each measure of a song. Up to 200 tempo map events can be stored for each song. For instance you might create a tempo map that includes specific rhythm patterns for song intro, verse, fill-in, chorus and ending.

Create a simple Tempo Map:

1. Press the **SONG** key, then press the **SelSong** tab in the display.

2. Press the **New** button, then press the **OK** button in the display.

3. Press the **TEMPO / RHYTHM** key, then raise the **MASTER Fader** to the "**0**" position.

4. Press the **Popup button** to the left of **Manual** in the display, then press the **TempoMap** radio button, followed by pressing **OK** in the display. The display will indicate **TempoMap** as the tempo source.

5. Press the **Rhythm:Off** button so that it indicates **Rhythm:On**.

6. Press the **TmpMap** tab at the bottom of the display, then press the **Edit** button in the display.

7. Press to highlight **Metro4** to the right of **Rhythm** in the display, and then rotate the **DIAL** to the right, until **ɪ R&Funk 3** (intro) is selected. (Don't worry, it's there…just keep rotating that DIAL!)

8. Press to highlight **120** to the right of **Tempo:**, then rotate the **DIAL** to the **left** until the tempo is set to **098**.

9. Press the **OK** button, followed by pressing the **New** button in the display. Note that **TempoMap002** appears at the top of the display. Now to enter the second tempo map event:

10. Press to highlight **001** to the right of **Meas:**, and slowly-rotate the **DIAL** to the right, until the display indicates **Meas: 003**.

11. Press to highlight **ɪ R&Funk 3** , then slowly-rotate the **DIAL** to the **left** to select **R&Funk 3**.

12. Press the **OK** button, followed by pressing the **New** button in the display.

13. Press to highlight **003** to the right of **Meas:**, then rotate the **DIAL** to the right to select **Meas: 006**.

14. Press to highlight **R&Funk 3** , and then slowly-rotate the **DIAL** to the **right** to select **ꜰ R&Funk 3**. (fill).

15. Press the **OK** button, followed by pressing the **New** button in the display.

16. Press to highlight **006** to the right of **Meas:**, then rotate the **DIAL** to the right to select **Meas: 007**.

17. Press to highlight **ꜰ R&Funk 3** to the right of **Rhythm**, and then slowly-rotate the **DIAL** to the **left** to select **R&Funk 7**.

18. Press the **OK** button.

Playback the new Tempo Map:

1. Press the **SetUp** tab in the lower left of the display.
2. Press the **PLAY** key, and watch the display. Your new tempo map will playback, and the display will indicate each tempo map events as the counter runs. The last tempo map event you entered will continue to run indefinitely, until you press the **STOP** key.

> *Tip: You can create a tempo map for an entire song, and then **record it** to tracks as a "scratch" or final "rhythm bed" for your song. To record the tempo map to tracks, follow the procedure in "Record the pattern", earlier in this section.*

> ***Note:** Remember that each tempo map event can contain new tempo and time signature settings, in addition to different patterns! For more information, see the D16 owner's manual pages 40 and 68.*

> *Tip: D16 tempo can be recorded and controlled in two more ways**: MIDI Clock** and **Tap Tempo**. Recording **MIDI clock** data lets you synchronize the D16 to external MIDI devices, and created a tempo map in the D16 allows precise sync when an external MIDI sequence contains tempo changes. The **Tap Tempo** feature lets you record new tempo after a song is recorded. This means that you can edit previously recorded tracks in units of measures, as well as synchronize to MIDI devices, even if no tempo settings were recorded in the original song! See the D16 owner's manual pages 41 and 69 for more information.*

Song and Track Editing

The following section overviews edit functions, and provides quick steps for various song and track editing procedures. To access the display pages that contain these edit functions, press the SONG *or* TRACK *keys, followed by the* EditSong *or* EditTrack *tabs in the display…*

Song Editing

Copy Song: Copy a song to another location on any drive. Use this when you want to backup your song on an external hard disk, etc, and when creating different mixes and arrangements.
SONG> EditSong> Copy > OK> select destination drive / song> Exec> Yes> OK

Move Song: Move a song to another song number on the same drive. Use this to change the order of songs.
SONG> EditSong> Move> OK> select destination song> Exec> Yes> OK

Delete Song: Deletes the entire selected song.
SONG> EditSong> Delete> OK> Exec> Yes> OK

Protect Song: Protects the selected song. Use this to avoid recording over or modifying your song data.
SONG> EditSong> Protect> OK> Exec ("padlock" icon appears next to Exec)

Copy All Songs: Copies all songs from the currently selected drive to another drive. Use this versus Backup Songs if you need immediate access to play and edit the copied songs. Be aware that this procedure writes over all data on the destination drive!
SONG> EditSong> CopyAll> OK> Drive > select destination drive > OK> Exec> Yes

Track Editing

Copy Track: Copies recorded track data from one region to another. You can copy single or multiple tracks with this function, and input how many times you want the selected region to be copied. You could use this function when you want to copy a recorded drum or bass groove repeatedly – to create track data for the entire song. You can also copy to the "clipboard", allowing you to copy track data from one song to another. To perform Copy Track, you'll first need to set the IN, OUT and TO times to copy…

TRACK> EditTrack> Copy> OK> select destination track(s) and times> Exec> Yes> OK

Insert Track: Inserts blank data between a pre-selected region (IN/OUT time). Use this to insert a blank area in single or multiple tracks, then add new audio to the blank region. The previous data will move towards the end of the song. To perform Insert Track, you'll first need to set the IN and OUT times…

TRACK> EditTrack> Insert> OK> select track(s)> Exec> Yes> OK

Erase Track: Erases a pre-selected region (IN/OUT time). Use this to erase audio from single or multiple tracks, and then re-record in the erased region. Unlike the Delete Track function, the data following the OUT time will not be moved forward (snipped). To perform Erase Track, you'll first need to set the IN and OUT times…

TRACK> EditTrack> Erase> OK> select track(s)> Exec> Yes> OK

Delete Track: Deletes a pre-selected region (IN/OUT time). Use this to delete audio from single or multiple tracks. When you perform the Delete Track function, the data following the OUT time will be moved forward (snipped). To perform Delete Track, you'll first need to set the IN and OUT times…

TRACK> EditTrack> Delete> OK> select track(s)> Exec> Yes> OK

Swap Track: This procedure exchanges the selected region of single or multiple tracks with the same region of other selected track(s). To perform Swap Track, you'll first need to set the IN and OUT times…

TRACK> EditTrack> Swap> OK> select track(s)> Exec> Yes> OK

Reverse Track: *This procedure lets you select the IN and OUT time for a region of audio, and then places a reversed copy of the selected region in the TO location. You can select a track or multiple tracks to be reversed – repeatedly, if desired.* *To perform Reverse Track, you'll first need to set the IN, OUT and TO times…*

TRACK> EditTrack> Reverse> OK> select track(s)and times> Exec> Yes> OK

Optimize Track: *This procedure "de-fragments" track data on your hard drive. If you repeatedly edit or re-record on single track or multiple tracks, the hard drive can become fragmented and valuable drive space can be lost. Errors can occur in playback if the data is fragmented – use this procedure whenever you overwrite record or do extensive editing to tracks!* *To perform Optimize Track, you'll first need to set the IN and OUT times…*

TRACK> EditTrack> Optimize> OK> select track(s)> Exec> Yes> OK

ExpCmp Track: *With this function, audio data can be expanded or compressed (time stretched) to fit into a specific region. You can also use ExpCmp to match the tempos of different drum loops. You set a range determined by the IN and OUT times, as well as setting specific TO and END times. This way the original audio data is left untouched, and the results of the expansion or compression procedures are processed to the destination track(s). In addition, you can specify pitch conversion, and expand or compress multiple tracks, repeatedly if needed.*

TRACK> EditTrack> ExpCmpTrk> Mode> ExpCmpMode> Pitch>
select track(s) and times> Exec> Yes> OK

Copy Whole Track: *This procedure lets you copy entire tracks (single or multiple) to a different track. This includes the Virtual tracks; in fact, you can copy a selected track or Virtual track to multiple Virtual tracks and perform editing to create multiple variations of the original tracks!*

TRACK> EditTrack> CopyWhole> OK> select track(s) and Virtual tracks a-h> Exec> Yes> OK

Swap Whole Track: *This function lets you exchange single or multiple track data – the entire track Data with another track or tracks. Swapping tracks helps you to organize Virtual tracks –audio data that resides across several Virtual tracks can be rearranged into "Virtual track a" etc. Another benefit to this procedure is the ability to re-order the numbering of tracks. This means you can swap tracks so that the same type of instruments will be located on the same track number.*

TRACK> EditTrack> SwapWhole> OK> select track(s) and Virtual tracks a-h> Exec> Yes> OK

Note: *For more information on Song and Track editing, see the D16 owner's manual pages 36 and 38.*

Additional D16 Owner's Manual References:

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