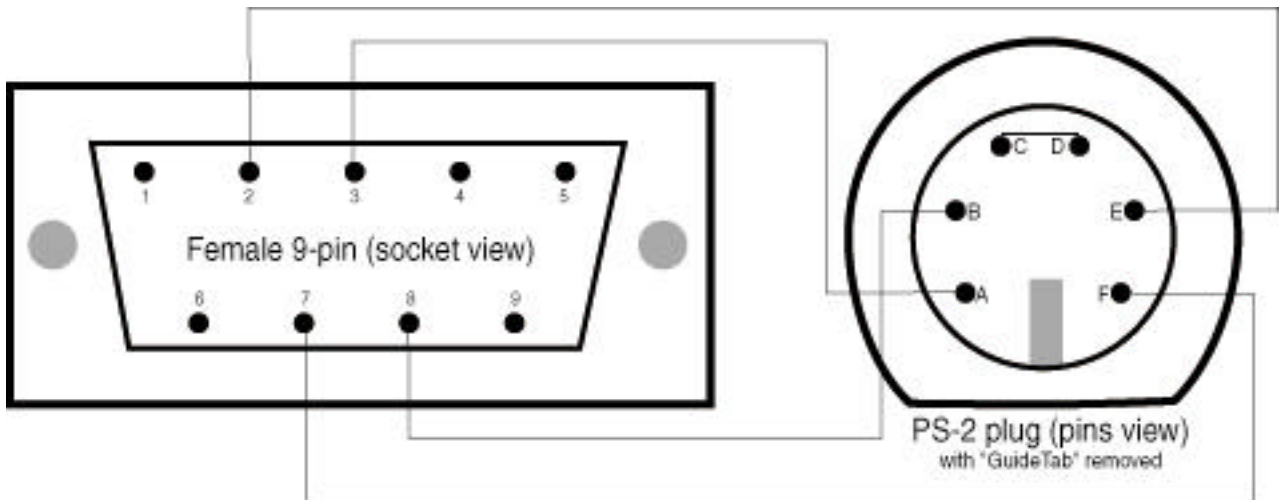# Editware
GRASS VALLEY, CALIFORNIA

TECH NOTE

Fastrack VS Version 2.1 and later

YAMAHA 03D SERIAL AUDIO MIXER

The Fastrack VS hybrid editing system interfaces to the 03D Serial Audio Mixer with a 6-pin DIN to 9-pin RS-422 serial control cable and Yamaha 03D audio mixer serial protocol. Direct control of each individual fader and the learning of manual adjustments are possible.

Interconnect Cable

An interconnect cable can be constructed using a PS-2 mouse/keyboard plug and wire and a Serial RS-422 female connector. This cable connects between the HOST port on the Yamaha O3D and a serial (male-male) cable attached to the Fastrack serial breakout (or use a male connector if your cable is long enough to reach the Fastrack serial breakout).

Since the numbering on PS-2 connectors varies or is frequently missing, please refer to the *letter* positions noted here for the PS-2 plug (the 9-pin conforms to standards). Both 9-pin connector and PS-2 plug are viewed from the "front."
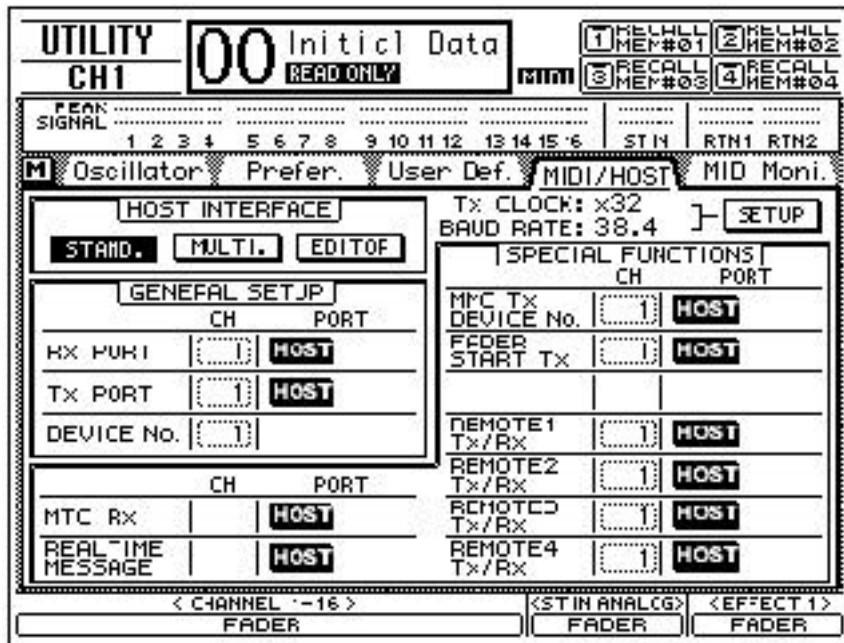

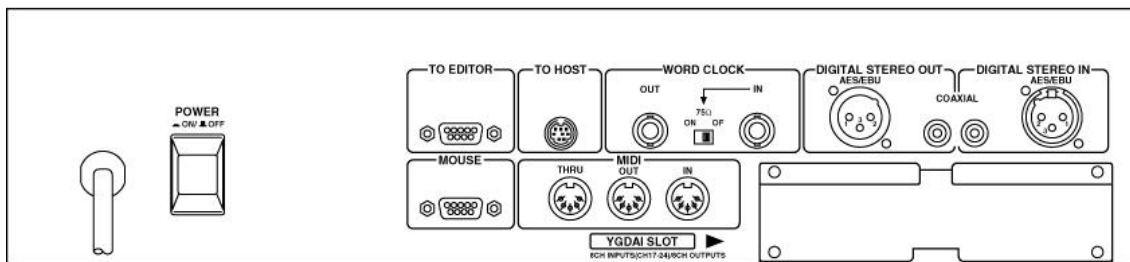| Serial 9-pin	PS-2 plug
2	E
7	F
3	A
8	B
	C & D jumpered

Note: The jumper between the top two pins on the PS-2 plug is essential for status reporting from the 03D mixer to Fastrack so it can "learn" manual changes to fader levels.
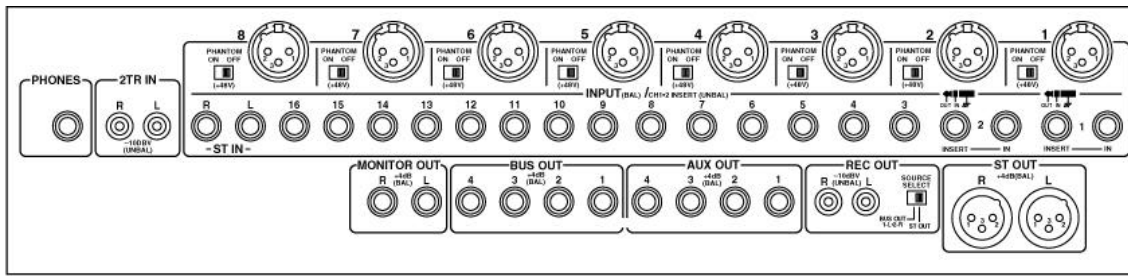
Mixer Setup

1. Connect the serial control cable from a Fastrack VS "COM" or "P#" port to the 6-pin "**TO HOST**" serial port on the rear of the 03D console.

2. At the 03D control panel "**SETUP**" section (top, left of the mixer), press the **[UTILITY]** button until the "**MIDI / HOST**" tab is selected.

3. At the "**MIDI / HOST"** tab, use the cursor buttons (under the PARAMETER wheel) to select, and then press the **[ENTER]** button, to accept the following:

Rear view of the 03D panel

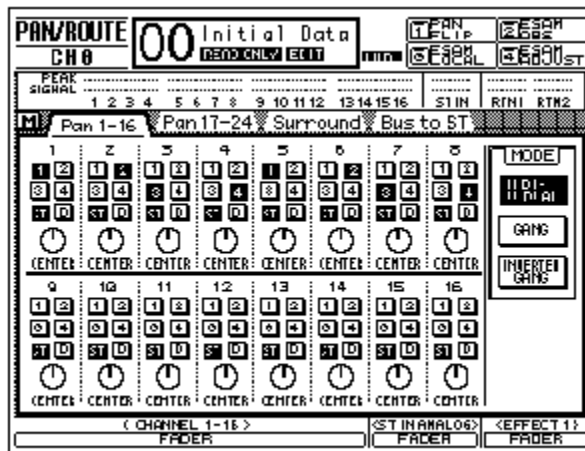Optional AES YGADI inputs/outputs (not shown) would be at lower right of above image.

Monitoring to amplifier and speakers is from the MONITOR OUT (1/4" TRS) connections
Program Out is from the ST OUT (XLR) connections

Analog inputs 1-8 use balanced XLR connections
Analog inputs 9-16 use 1/4" TRS (tip/ring/sleeve) connections.
Monitor outs uses 1/4" TRS connections.
Bus outs use 1/4" TRS connections.
ST Out uses XLR and is the PROGRAM OUT to any/all record channels.

MONITORING

The 03D has a monitoring bus that can be remotely controlled as a preview bus; therefore, all audio previews should be done utilizing this preview switcher in the 03D.
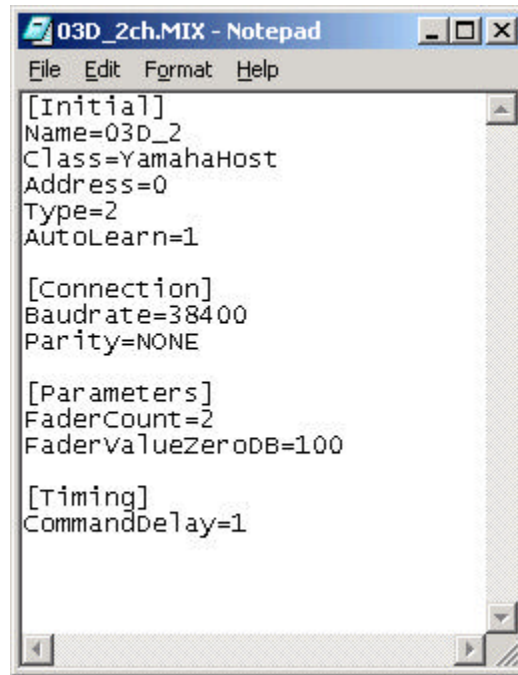
Set each source's BUS Out and monitoring in the **[PAN/ROUTE]** section as below for four channels per source:

The BUS Outputs (1-4) are fed to the RECORD device for recording (or AES Out if the YGADI option is installed) and the MONITOR OUT connected to amplifier and speakers. The ST OUT is the signal that is monitored on the MONITOR OUT (when set in **[Bus to ST]** to OFF {not highlighted}), allowing preview monitoring to be controlled via the 03D mixer. The MONITOR OUT has a volume control knob for convenient speaker volume adjustment.

AUDIO MIXER FILES

The specific mixer protocol files to be used on the Assignment Page [Shift]+[Assign] are in the MIXER folder on the C:/ drive of the Fastrack computer, in the Ftruntime folder.   The 2 channel (stereo) version of the 03D driver is labeled 03D_2CH.MIX and has only two differences from the 4 channel version: Name=03D_2 and the FaderCount=2.

```
03D_2ch.MIX - Notepad
File   Edit   Format   Help

[Initial]
Name=03D_2
Class=YamahaHost
Address=0
Type=2
AutoLearn=1

[Connection]
Baudrate=38400
Parity=NONE

[Parameters]
FaderCount=2
FaderValueZeroDB=100

[Timing]
CommandDelay=1
```

The 03D_4CH.MIX protocol will have Name=03D_4 and a FaderCount=4

```
03D_4ch.MIX - Notepad
File   Edit   Format   Help

[Initial]
Name=03D_4
Class=YamahaHost
Address=0
Type=2
AutoLearn=1

[Connection]
Baudrate=38400
Parity=NONE

[Parameters]
FaderCount=4
FaderValueZeroDB=100

[Timing]
CommandDelay=1
```
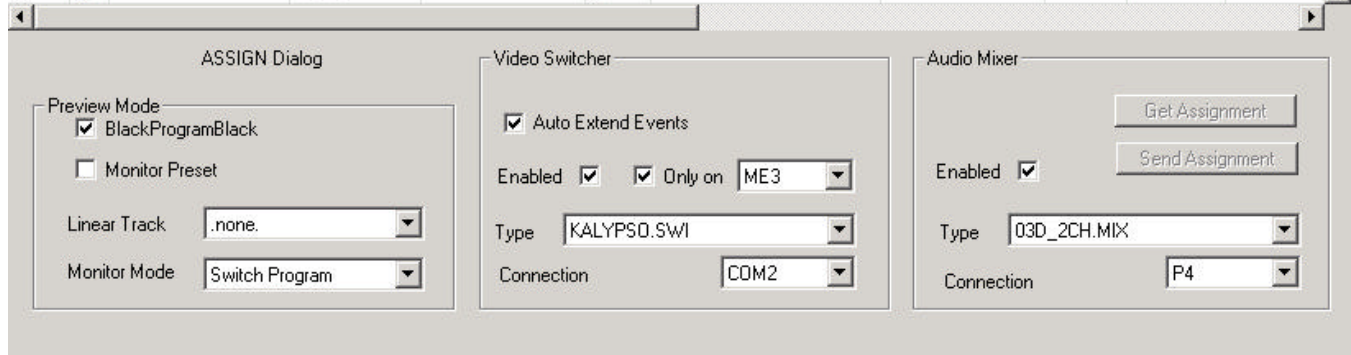
FASTRACK VS SETUP

Assign the following audio Start and Count values in the Source Assignment page **[SHIFT]+[ASGN]** in Fastrack VS for the 03D setup (**two channels** per device in this example):
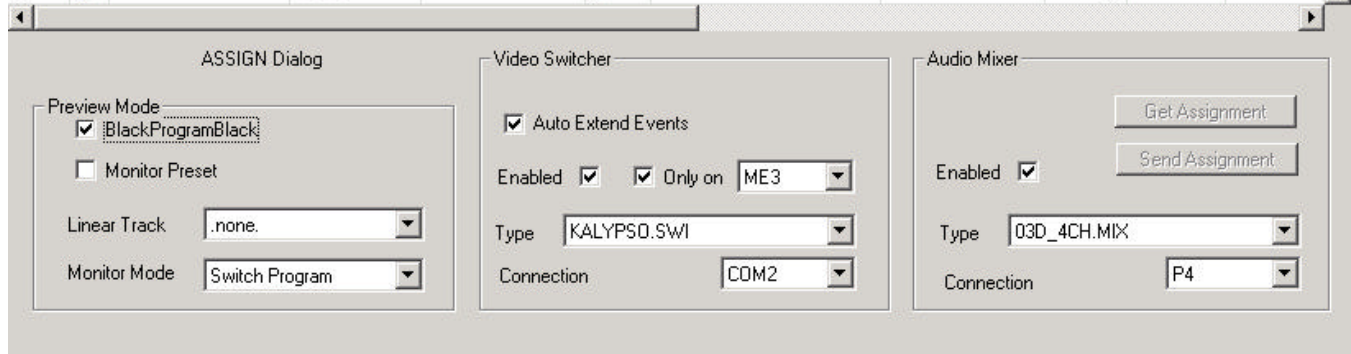
Track	On	Name	Class	Device	Auto	Port	Pool	V-Switcher Video	AudioMixer Start	Count
1	☒	Profile 1	PROFILE	XP	☐	GV011250:Vtr1	xp1	1	1	2
2	☒	Profile 2	PROFILE	XP	☐	GV011250:Vtr2	xp1	2	3	2
3	☒	Profile 3	PROFILE	XP	☐	GV011250:Vtr3	xp1	3	5	2
4	☒	Profile 4	PROFILE	XP	☐	GV011250:Vtr4	xp1	4	7	2
5	☒	Profile 5	PROFILE	XP	☐	GV011250:Vtr5	xp1	5	8	2
6	☐		none		☐					
7	☐		none		☐					
8	☐		none		☐					

ASSIGN Dialog

Preview Mode
☑ BlackProgramBlack
☐ Monitor Preset
Linear Track .none.
Monitor Mode Switch Program

Video Switcher
☑ Auto Extend Events
Enabled ☑   ☑ Only on ME3
Type KALYPSO.SWI
Connection COM2

Audio Mixer
Get Assignment
Send Assignment
Enabled ☑
Type 03D_2CH.MIX
Connection P4

Note: Under Audio Mixer (upper right), the two columns represent the Start number for the first fader of each source, and the count for each source (1=mono, 2=stereo, 4, etc).
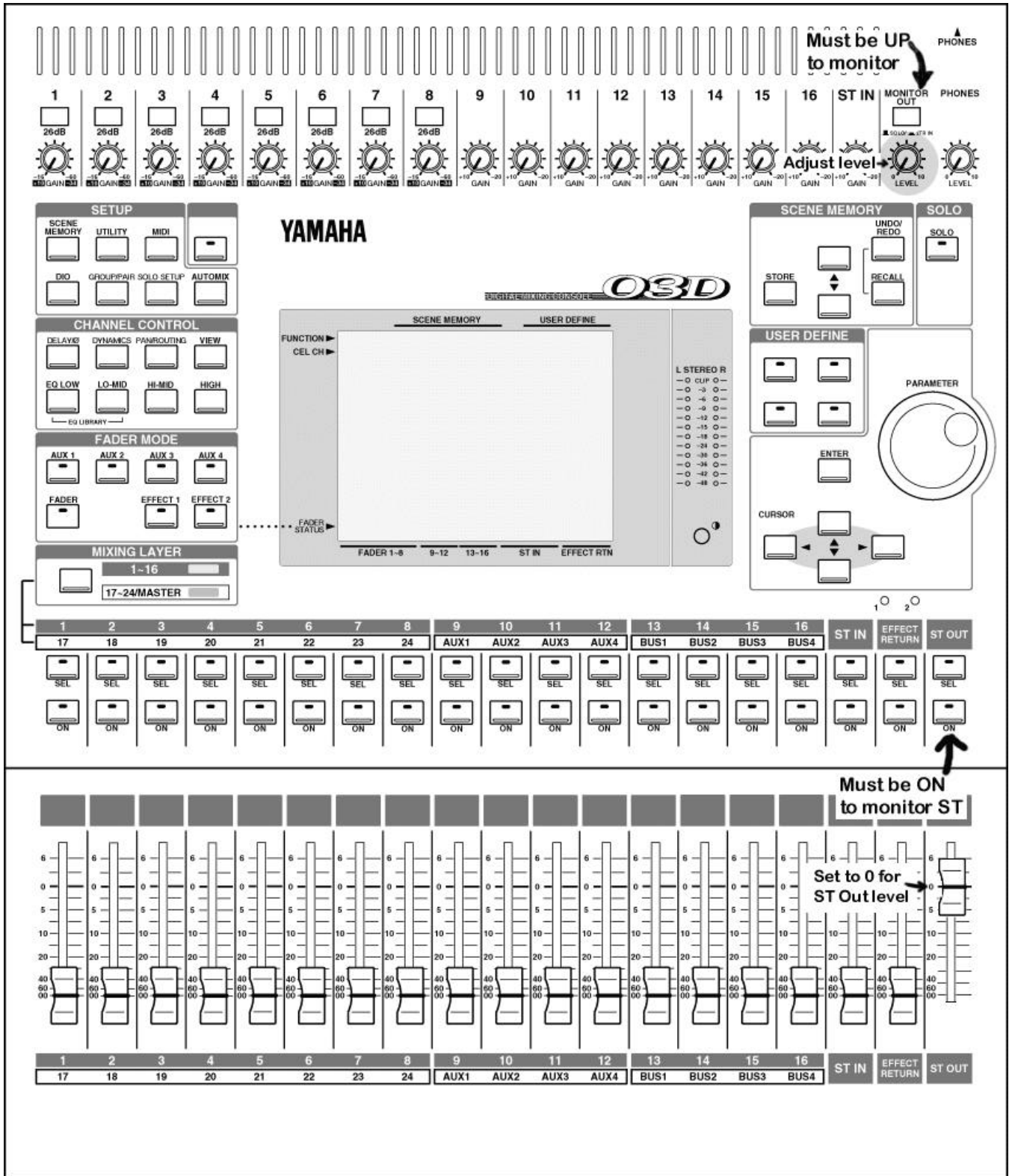
Assign the following audio Start and Count values in the Source Assignment page **[SHIFT]+[ASGN]** in Fastrack VS for the 03D setup (**four channels** per device in this example):

Track	On	Name	Class	Device	Auto	Port	Pool	V-Switcher Video	AudioMixer Start	Count
1	☒	Profile 1	PROFILE	XP	☐	GV011250:Vtr1	xp1	1	1	4
2	☒	Profile 2	PROFILE	XP	☐	GV011250:Vtr2	xp1	2	5	4
3	☒	Profile 3	PROFILE	XP	☐	GV011250:Vtr3	xp1	3	9	4
4	☒	Profile 4	PROFILE	XP	☐	GV011250:Vtr4	xp1	4	13	4
5	☐		none		☐					
6	☐		none		☐					
7	☐		none		☐					
8	☐		none		☐			8		

ASSIGN Dialog

Preview Mode
☑ BlackProgramBlack
☐ Monitor Preset
Linear Track .none.
Monitor Mode Switch Program

Video Switcher
☑ Auto Extend Events
Enabled ☑   ☑ Only on ME3
Type KALYPSO.SWI
Connection COM2

Audio Mixer
Get Assignment
Send Assignment
Enabled ☑
Type 03D_4CH.MIX
Connection P4

Note: Notice the different TYPE of audio mixer selected. 03D_2CH.MIX for stereo, 03D_4CH.MIX for four channels of audio. The Events on each Fastrack track will have only two channels with the 2CH file, and four channels with the 4CH file.

Yamaha 03D Audio Mixer Control Panel

Note: The 03D ST OUT is used for monitoring (VU meters active) and Program Output.
Ensure the ST fader is up to 0 level, the ST ON lamp is illuminated, and the MONITOR OUT button is in the UP position.