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The Information in the manual is updated as the PD-1net is improved, you can find the latest version of the software on the product web page.

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Introduction

PD-1net Pec-Direct Remote For DAW's

The PD-1net is an upgrade for the popular PD-1 DAW monitoring controller. The original PD-1 now the PD-1net provided a new way to implement the 'Pec-Direct' panel concept. The solo, mute and source/playback switching are implemented within the digital audio workstation. By switching within the workstation a large number of interconnections and hardware are eliminated, for instance an outboard 48 track Pec/Direct unit would require 96 inputs!. The audio is then mixed within the workstation to generate the individual monitor feeds (LCRS...).

Film pioneered multi-channel recording, some current mixes can have over 200 separate elements in any section. The combination of multiple multi-channel segments with multi-format delivery requirements has forced film dubbing mixers to develop a flexible way of working which demands an appropriate monitoring system. Two main elements have evolved: firstly the concept of stems, premixed multi-channel elements, typically music, dialogue and effects, secondly the 'PEC-Direct' panel (PEC = Photo Electric Cell). This could also be called a 'tape-direct', "playback-direct" or today 'disk-direct', we prefer the original name 'Pec-Direct'.

The typical monitor section in a film desk is a completely separate mixer with for example 6 stems of 8 tracks requiring 48 'Direct' inputs and 48 'Pec' inputs. The inputs are routed to up to 8 outputs (For example a 7 track mix of L, R, C, Sub/FX, LS, RS, CS). The dialogue stems may only be mono, the music stems may be two or three track or four track, and up to 7 track effect stems.

The PD-1net builds the function of the desk monitor section into the DAW eliminating completely the hardware and wiring required to implement the monitor section in the console.

An added advantage of connecting directly to the DAW is that the Stem and Track names may be read directly from the DAW, stems may be generated automatically from the track names so that the user does not have to re-enter them.

The following updates have been made to the PD-1net and PD-1v2 Software

- [Bank] key that allows access to 16 Stems each of which can be up to 16 tracks wide
- Stem Linking allowing Object stems with more than 16 tracks
- The Output port can now access 128 tracks on Protools
- The Input Port may be used as a Output Port and can access 64 tracks (You will need to purchase another USB-422 for this) allowing up to 192 tracks in total.

PD-1v2 Software only upgrade

- Connect with the new PD-2 Stem assignment s/w available for Mac or Windows via the RS422 input port.

PD-1net Only

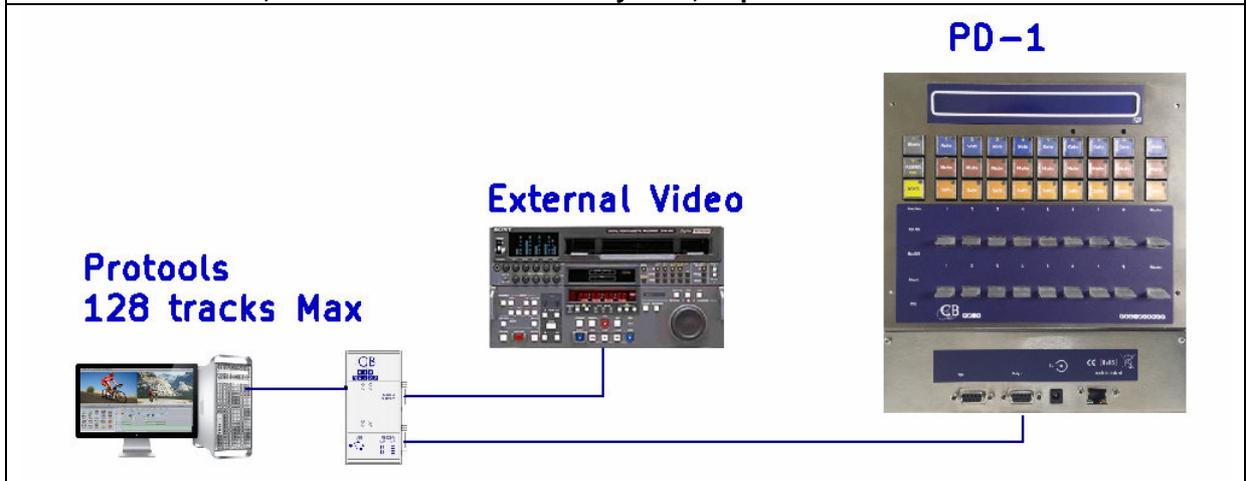
- Ethernet has been provided to link multiple PD-1's and connect with the new PD-2 Stem assignment s/w available for Mac or Windows.

For multi operator systems the PD-1net may be used with a second PD-1net, PD-1, PD-3 or PD-2(When Available).

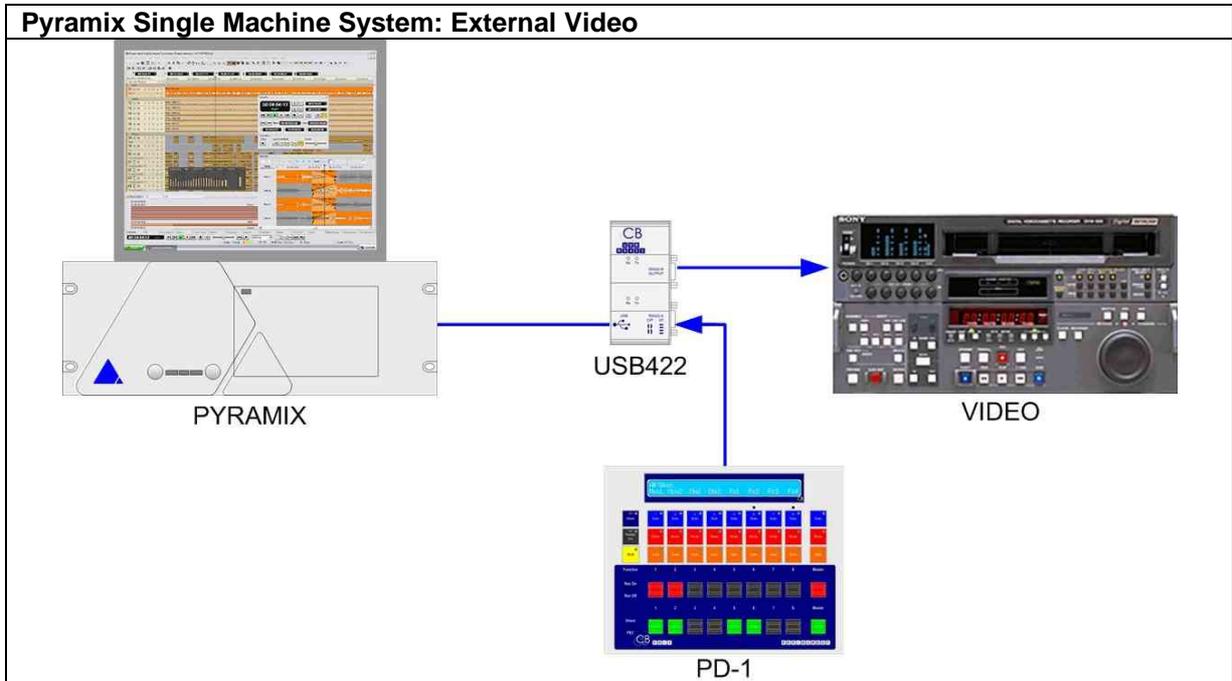
Size: The PD-1net is designed as a stand alone unit the front panel is 230mm wide x 200mm. The lip around the front panel allows the PD-1net to be mounted in a panel.

Block Diagrams

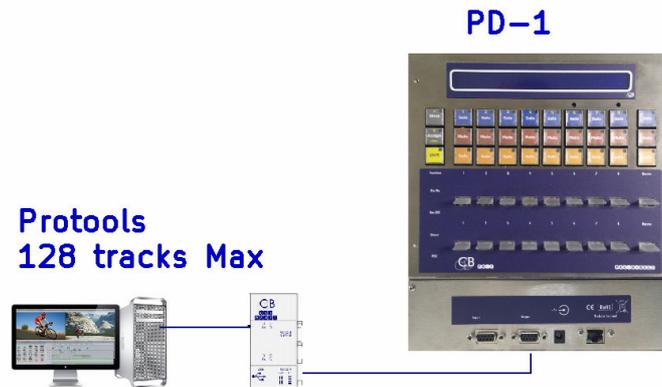
PD-1NET ProTools, Combined Record and Playback, Separate Video



Pyramix Single Machine System: External Video



Connecting the PD-1net to a single ProTools



Connecting the PD-1net to two protocols

**Second Protocols
64 tracks Max**



**Main Protocols
128 tracks max**



PD-1



Ethernet Connections to PD3 and PD-1net

**Ethernet Connections to
PD-1v2 and PD-3**

Mac/Win



Switch



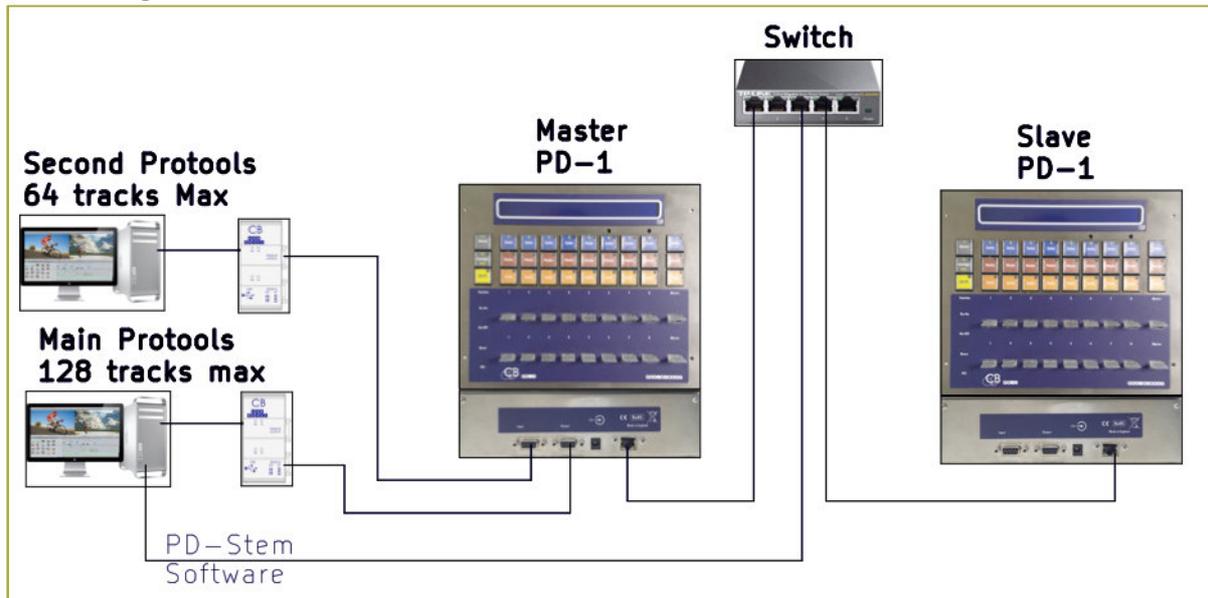
PD-1v2



PD-3



Connecting two PD-1net's to two Protocols and PD-Stem s/w



Pec - Direct Panel Operation

The panel is made up of 8 individual channels and a Master, the bank key allows access to 16 channels.

The panel operates on two levels

1. Stem Level: controls and displays all the "Stems"
2. Track Level: controls and displays the tracks within a single "Stem"

Selecting Stem/track Level

To Select Track level from Stem level

Click the **[Stem]** key and whilst the Stem LED is flashing click the selected stem **[Solo]** key.

When in track level the Stem LED is illuminated

To Select Stem Level from Track level

Click the Stem Key.

Alternatively You can also use the same method as the PD-3 - Hold down [Shift] and use any of the Solo keys to switch between Stem level and Track Level (Note: the s/w will not allow you to access an empty stem!).

The Stems and tracks are normally displayed using their names but can also be displayed by number

Stem Level

Up to 16 Stems may be defined in two banks of 8, use the Bank Key to access to the second bank of 8 stems. Each stem can contain up to 16 tracks, The channel strip controls all the tracks within stem assigned. The stems may also be linked to allow a single channel to control a stem with any number of tracks.

The upper line of the display shows "Stems" and the Bank number (Bank 1 or Bank 2).

Track Level

The individual channels are assigned to up to 16 tracks, The [Bank] key is used to select between the two banks of 8 tracks. The Master keys control all tracks in the Stem on both banks.

By using the two levels you can Solo, Mute, Safe, Record, Pec/Direct as single track within a stem, a stem with multiple tracks or all stems.

Display

Stems Mode

```
Stems Bank 1 ProT64 N/C 00:00:001:11
Fx Mx Dx Comp Ob >
```

Top line:

"Stems Bank 1", DAW Name "proT64", Tally "N/C" (Not Connected) and DAW Position "00;00:01:11"

Bottom line: Stem names

Note: Stem "Ob >", the link symbol ">" indicates that it is linked, in the case to stems on the second bank

Track Mode

```
Fx          ProT64 N/C 00:00:001:11
L  R  C  LFE Ls Rs Lb Rb
```

Top line:

Stem Name "Fx", DAW Name "MC-1", Tally "N/C" (Not Connected) and DAW Position "00;00:01:11"

Bottom line:

Track names for the "Fx" Stem

Solo In Place

When Recording within the replay DAW special consideration must be given to solo, the Record (Stem) Solos must be separated from the replay solo's or solo in place will not work as expected.

The PD-1net implements Solo using or Mute commands. The advantage of using Mutes for Solo's is that Solo in Place will work correctly.

Where a separate record protocols is not used to configure Solo in Place the stems should be solo safe on the DAW, On the PD-1net the Composite stem should be solo safe. This will allow the stems to be soloed on the PD-1net and the tracks to be soloed on the DAW.

Keys

Channel SOLO

Stem Mode

Solo all tracks in the selected Stem. The LED will illuminate when all of the tracks in the stem are soloed and flash if some but not all of the tracks are soloed.

Track Mode

Solo the selected track, The LED will illuminate when the track is soloed.

Note. Solo's are additive.

Channel MUTE

Stem Mode

Mute all tracks in the selected Stem. The LED will illuminate if all of the tracks in the stem are muted and flash if some but not all of the tracks are muted.

Track Mode

Mute the selected track, the LED will illuminate when the track is muted.

Note: The Mute LED's will not illuminate to indicate mute due to Solo.

Channel SAFE

Stem Mode

Safe all tracks in the selected Stem. The LED will illuminate when all of the tracks in the stem are safe and flash if some but not all of the tracks are safe.

Track Mode

Safe the selected track. The LED will illuminate when the track is safe.

Note1. When a track is safe it is no possible to switch record on or off.

Note2. Safe is internal to the PD-1

Channel record Paddle

Stem Mode

Record all tracks in the selected Stem. The LED will illuminate when all of the tracks in the stem are recording and flash if some but not all of the tracks are recording.

Track Mode

Record the selected track. The LED will illuminate when the track is recording.

Note1. When a track is safe it is no possible to switch record on or off.

Note2. You can also use the channel paddles as Arm keys and the Master Record paddle for record On/Off See Unit Menu 10

Channel PEC-Direct Paddle

Stem Mode

Switch all tracks in the selected Stem between Playback and Input. The LED will illuminate when all of the tracks in the stem are selected to playback and flash if some but not all of the tracks are selected to playback.

Track Mode

Switch the selected track between Playback and Input. The LED will illuminate when the track is selected to playback.



Note. You can also link the safe keys to the Pec direct paddles.

Master MUTE

Stem Mode

Mute/unmute all tracks/Stems. The LED will illuminate if any of the channels are muted.

Track Mode

Mute/unmute all tracks in the selected Stem, the LED will illuminate if any of the channels are muted.

Master SOLO

Stem Mode

Solo all tracks/Stems. The LED will illuminate when any of the tracks are soloed.

Track Mode

Solo all tracks within the selected stem. The LED will illuminate when any of the tracks are soloed.

Master Safe

Stem Mode

Safe/unsafe all tracks/Stems. The LED will illuminate when any of the tracks are soloed.

Track Mode

Safe/unsafe all tracks within the selected stem. The LED will illuminate when any of the tracks are soloed.

Master record Paddle

Stem Mode

Record/Un-Record all Tracks/Stems that are not Safe. The LED will illuminate when any of the tracks are recording.

Track Mode

Record/Un-Record all tracks that are not safe within the selected stem. The LED will illuminate when any of the tracks within the selected stem are recording.

Master PEC-Direct Paddle

Stem Mode

Playback/Direct all Tracks/Stems that are not Safe. The LED will illuminate when any of the tracks are Playback.

Track Mode

Playback/direct all tracks that are not safe within the selected stem. The LED will illuminate when any of the tracks within the selected stem are in Playback.

Note. The Safe status may be linked to the Pec/Direct paddles (Menu Unit-06 link Safe to Pec/Dir Paddles)

Stem, ^

Normal

Setup Menu active

Bank, v, mu

Special key combinations

The [Shift] key in combination with other keys is used to access different functions from the PD-1net keyboard. as follows

[Shift] + [Bank]	Enter Setup Menu
[Shift] + [Any Solo Key]	Stem mode - Expand stem to tracks
	Track Mode - Return to stem mode

The following key combination depends on setup menu 'Unit-01 Shift held Function'

Unit-01 Shift + Mute/Safe Function
1= Off 2= S.Safe+P.Mast 3=Stem+/-

1=Off	Off
2=S.Safe+P.Mast	[Shift]+[Channel Mute] = P.Mast, [Shift]+[Channel Safe] = Solo Safe
3=Stem +/-	Move Stems as required using [Channel Mute] and [Channel Safe]

The image below shows the display with [Shift] depressed with the Safe keys set to 2=S.Safe+P.mast,

Note 1: the messages in the display indicating "Safe=SSafe, Mute=PMast and Solo= Stem/Trk

Note 2: "Ob **", the * symbol to the right of 'Ob' indicates that this stem is linked, in this case to more OB stem(s) on the second bank.

Safe=SSafe Mute= PMast Solo= Stem/Track
Fx Mx Dx Comp Ob *

Link

The link concept was introduced in the PD-2 software to cope with object stems, Object stems can contain any number of tracks, when there are more than 16 it is necessary to combine multiple stems to accommodate them. The linked stems must be adjacent in the DAW, not on the PD-1net surface.

Linking applies to all stem functions, Solo, mute record and Pec/Direct

Enable/Disable Stem linking

Stem linking is defined by the PDStem program, any stem with more that 16 tracks will be defined over linked stems.

Solo-Safe

When the [Shift] key is held depressed and the message 'Safe= SoloSafe' is displayed in the user message display. In this mode the Safe keys are used to set/clear the Solo-Safe data. Soly safe is normally used on the composite output stem.

Enable/Disable Solo Safe

- Enable in menu Unit-01 Shift held function 2=S.Safe+P.Mast
- Select Stem level as above
- Hold down the **[Shift]** key, user display will show "Safe=SoloSafe"
- Use the Channel **[Safe]** keys to enable/disable Solo Safe, the Safe LED's indicate which stems are Solo Safe.



Print Master Stems

Print Master Stems are special; they must be modified whenever any stem is modified. To achieve this when any stem enters record the Print Master stems enter Record, Print Master Stems will exit Record when all other stems exit record, You can define multiple print master stems

Enable/Disable Print Master Stems

- Enable in Menu Unit 01 Shift held function 2=S.Safe+P.Mast
- Select Stem or Track level as above
- Hold down the [Shift] key
- Use the Channel [Mute] keys to enable/disable Print Master, the Mute LED's indicate which stems are print master.

Protocols Track Names

The PD-1 controls the record and monitor on the stems and on the final mix (comp). Care should be taken over the track names so that they can recognised in the first four characters. For instance two stems 'Music1' and 'Music2' will both show as 'Musi', use 'Mx1' and 'Mx2' or equivalent.

When Long names are used protocols will remove any spaces, it is best to use a special character to separate Stem and track such as _ , -

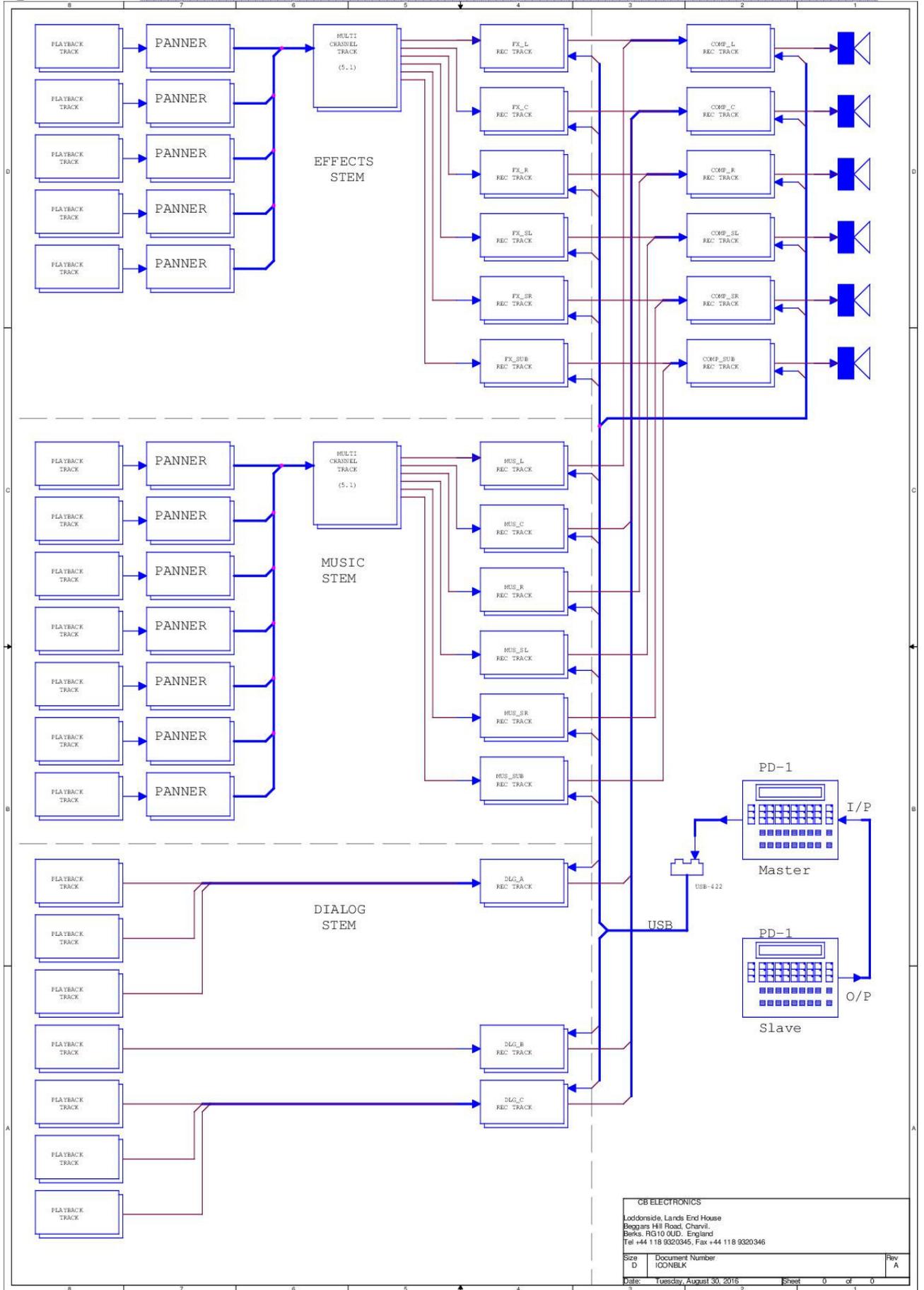
In the example below the names are used

Track names used in Diagram				
	Music Stem	Effects Stem	Dialog Stem	Composite Stem
Channel1	Mx_L	Fx.L	Dx_A	Comp_L
Channel 2	Mx_R	Fx.R	Dx_B	Comp_R
Channel 3	Mx_C	Fx.C	Dx_C	Comp_C
Channel 4	Mx_SL	Fx.SL		Comp_SL
Channel 5	Mx_SR	Fx.SR		Comp_SR
Channel 6	Mx_Sub	Fx.Sub		Comp_Sub
Channel 7				
Channel 8				

The diagram shows a 5.1 mix with 3 mono dialog tracks, using the PD-1 you can mute or solo stems or individual tracks and mute or solo Left, Right etc in the Comp stem. The Comp Stem must be made Solo-Safe in the PD-1 to enable Stem or track Solo.



PD-1net User guide



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UNIT SETUP

To enter set-up depress [Shift] and [Bank/Menu] simultaneously, after power on the Root Menu will always be displayed, subsequent entries into the set-up will return to the last accessed menu. To exit set-up depress [Shift] to return to the root menu and [Shift] a second time to exit.

Once in the Set-up Menu the solo keys numbered 1-8 are used to select parameter values, The [Stem ^] key is used to move up the menu tree, the [Bank v] key is used to move down the menu tree. The Root menu is at the top of the menu tree.

The following parameters may be configured by the user.

Root Menu

dd/mm/yy Root Select Set-up Required
1= Auto 2= Unit 3=O/P#1 4=O/P#2 5=E-Net

- | | |
|---------|--|
| 1= Auto | This selects parameters that control the Track/Stem operation of the unit |
| 2=Unit | This selects parameters that Control the Way the unit operates |
| 3=O/P#1 | The Sony P2 Output connected to the main protocols. |
| 4=O/P#2 | The Sony P2 "input" port when connected as an Output (To Access Auto Menu 02 must be set to 2=Two. |
| 5=E-Net | Network parameters and network debug (PD-1net Only) |

Note. *The firmware build date is displayed in this Menu*

Note: *You can only access [4=O/P#2] when the 2nd output is enabled, menu Auto-02 Number of Outputs set to 2=two*

Auto Menu

To access the Auto Menu return to the root Menu and select 1=Auto

Track/Stem Assign

Auto-01 Track/Stem Assign
 1= Read 2= Locked 3= Auto-Stem

Read: Read the track names from Protools continuously as a background task

Locked: The Track names are not read from Protools.

Auto-Stem: The track names are read from the DAW, the Stem assignment is then set depending on the menu Auto-05 Stem and Track Name format. Once AutoStem is finished the state of this menu is determined by Menu Auto-06 "After Auto-Stem"

Number Of outputs

Auto-02 Number of Outputs
 1= One 2= Two

One One Protools is connected to the Output Port

Two A second protools is connected to the Input Port

Note: The second output should be connected to Port A on the USB-422 connected to the second Protools.

O/P-1 Number of Tracks

Auto-03 O/P-1 Number of Tracks
 -1 +1 -10 +10 =24

This menu sets the number of tracks that Auto-Scan will read on the Protools connected to the output Port.

- 1 The Solo-1 key will Decrement the number of tracks
- +1 The Solo-2 key will Increment the number of tracks
- 10 The Solo-3 key will subtract 10 from the number of tracks
- +10 The Solo-4 key will add 10 to the number of tracks

O/P-2 Number of Tracks

Auto-04 O/P-2 Number of Tracks
 -1 +1 -10 +10 =24

This menu sets the number of tracks that Auto-Scan will read on the Protools connected to the Input Port.

- 1 The Solo-1 key will Decrement the number of tracks
- +1 The Solo-2 key will Increment the number of tracks
- 10 The Solo-3 key will subtract 10 from the number of tracks
- +10 The Solo-4 key will add 10 to the number of tracks

Note. This Menu is ignored if Auto-02 is set to 1=One

Stem & Track Name Format

Auto-05 Stem & Track Name Format
1=Trk 2=S2T 3=S3T 4=S4T 5=St_Tk 6=Tk_St

On DAW's which do not have separate Stem Names the Track name can be used for both the Stem and Track name. This menu is used to decode the track name.

1. **Track:** Track Name only, no stem name
2. **S2T:** First 2 characters are the Stem Name, The following characters are the Track Name.
3. **S3T:** First 3 characters are the Stem Name, The following characters are the Track Name.
4. **S4T:** First 4 characters are the Stem Name, The following characters are the Track Name.
5. **St_Tk:** Stem and track are read from the DAW, Stem Name followed by Track name separated by a space ' ' full stop '.', comma ',' or underscore '_', e.g. 'Music Left'. Music.Left, Music_Left. The short Stem and Track Names are displayed as the first four characters of each
6. **Tk_St:** Track and Stem . are read from the DAW, Stem Name followed by Track name separated by a space ' ' full stop '.', comma ',' or underscore '_', e.g. 'Left Music', 'Music.Left', 'Music_Left'. Stem and Track Names are displayed as the first four characters of each

Note 1 The Stem name storage holds a maximum of 8 characters per stem.

Note 2 The Track name storage holds a maximum of 8 characters per track.

Note 3 The defined format is global and applies to all tracks.

Using Long Stem/Track names in Protools

When using long track names protocols will condense them and remove spaces and full stops. To use long track names use '_' as a separator between stem and track names. Select the number of stems to be used

After Auto Stem

Auto-06 After Auto-Stem
1=Read 2=Lock

This menu determines the Track/Stem Assign Mode after Auto-Stem, see Auto menu 01

Note. The PDStem app. will always set this parameter to 2=Lock

Unit Menu

To access the Unit Menu return to the root Menu and select 2=Unit

Select held Function

Unit-01 Shift + Mute/Safe Function
 1= Off 2= S.Safe+P.Mast 3=Stem+/-

This menu determines the function of the Safe keys and LEDs when the [Shift] key is held depressed

1=Off	Off
2=S.Safe+P.Mast	[Shift]+[Channel Mute] = P.Mast, [Shift]+[Channel Safe] = Solo Safe
3=Stem +/-	Move Stems as required using [Channel Mute] and [Channel Safe]

Note1. The Function of the Solo and Safe keys is shown in the Display whilst [Shift] is depressed

Note2: Change from original PD-1 software, Shift + Solo keys now always switches between Stem and Track, Shift+Safe and Shift+Mute keys are used for other functions.

Stem & Track display

Unit-02 Stem & Track Display
 1= Logical 2= Stem & Track

The track names as Logical track numbers or read from the DAW.

- Logical:** Both Stem and Track names are logical
- Stem & Track:** Both Track and stem names are read from the DAW, See menu Auto-05 for the Track name format.

Logical Track names

Track 1..64 : Displayed as **Tk01..Tk64**

Logical Stem Names

Stem 1..16: Short Stem names **St01 ..St16**

Named Stems

Dialogue Stem: Displayed as **Dialogue 1 .. Dialogue 4** or **Dlg1.. Dlg4**

Music Stem: Displayed as **Music 1 .. Music 4** or **Mus1 .. Mus4**

Effects Stem: Displayed as **Effects 1 .. Effects 4** or **Fx-1 .. Fx-4**

Aux Stem: Displayed as **Aux Stem 1 .. Aux Stem 4** or **Aux1 .. Aux4**

Note 1: The Stem name read from the first named track in the stem.

Note 2: Only the first four characters of the Track Name will be displayed over the channel.



Record Paddles

Unit-03 Record Paddles
1=Record 2=Arm Only 3=Arm & Stay 4=MastRec

This menu selects the function of the record paddles as follows:-

- 1=Record** When Machine is in Locked Play send Track Arm Command followed by Edit On
Remove all track arming when not in Play
- 2=Arm Only** When Machine is in Locked Play send Track Arm Command Only
Remove all Track Arming when not in Play
- 3=Arm&Stay** Arm Tracks at any time, master key will Arm all Tracks
- 4=MaterRec** The same as 3=Arm&Stay but the Master record paddle sends Record On/Off commands only.

On Record switch channels to direct

Unit-04 On Record, Switch Chan to Direct
1=No 2=Yes

Added to fix a bug in protocols 11 where it is no longer possible to switch between Pec and Direct after a channel has been in record (The screen indicator switches but not the audio).

- 1=No Normal (Default)
- 2= Yes Added to fix Protools 11 bug

On Stop, Switch Non Safe channels to direct

Unit-05 On Stop, Non Safe Chan to Direct
1=No 2=Yes

Auto input when not in playback of any channel where safe is not enabled

Link Safe to Pec/Dir Paddles

Unit-06 Link Safe to Pec/Dir Paddles
1= On 2= Off

When On the Safe keys are linked to both the records and Pec/Direct keys inhibiting both Record and Direct selection.

Wait for Lock

Unit-07 Wait for Lock
1= Yes 2= No

This menu locks out track arming commands when slewing to lock.

If Protocols chasing timecode this menu must be set to '1= Yes' as if protocols receives a track arm or edit command when not locked this aborts the locking process and Protocols will lock out of sync!

When using an external synchroniser (RM-6) then set to '2= No' track arm commands are passed to the controlled machine and the 'Edit On' command is delayed until the machine is locked.

Panel Type

Unit-08 Panel Type
1= Master 2=Slave RS422 3=Slave E-Net

The PD-1 has 3 main operating modes as follows

- **1=Master** Single O/P, input can be used to daisy chain
- **2=Slave RS422** Daisy chain device, must connect to a "Master"
- **3= Slave E-Net** Connected to Master via Ethernet (PD-1net Only)

The PD-1 connected to the Workstation or CB Synchronizer is the master any PD-1 connected to another PD-1 should be set up as a Slave. The system will operate with all units set to Master but some operator interaction may occur if commands are simultaneous.

Test Display/Factory Setup

Unit-09 Test/Display
1= Pos1 2= Pos2 3= Blank 4= Keys 5= Factory

Pos1	Display position information from main device connected to Slave Port
Pos2	Display position information from second device connected to Master Port
Blank	No display
Keys	Display key numbers of depressed keys
Factory	Use with caution, this will reset the unit to its factory default condition! When Set exit from the setup menu will take about 4 seconds to write the factory data.

Factory Setup

24 tracks as three 7.1 stems Fx, Mx and Dx
 Fx: Tracks1-8,
 Mx: Tracks 9-16
 Dx: Tracks 17-24

Auto-01 Track/Stem Assign: 1= On
 Auto-02 Number of outputs: 1=One
 Auto-03 O/P-1 Number of tracks = 24
 Auto-04 O/P-2 Number of tracks = 24
 Auto-05 Stem & Track Name Format: 5= St_Tk
 Auto-06 After Auto-Stem: 2=lock
 Auto-07 Stem Display Width: 2=8
 Unit-01 Select held function: 1=Link
 Unit-02 Stem & Track display: 2= Stem & Track
 Unit-03 Record Paddles: 1= Record
 Unit-04 On Record Switch Chan to Direct: 1= No
 Unit-05 On Stop, Not Sate chan to Direct; 1= No
 Unit-06 Link safe to PEC/Dir keys: 1= On
 Unit-07 Wait for Lock: 1=Yes
 Unit-08 Panel Type: 1= Master
 Unit-09 Test Display: 1= Pos

O/P#1 and O/P#2 Menu's

To access the O/P#1 and O/P#2 Menu return to the root Menu and select O/P#1 or O/P#2

The O/P menu's are used to define DAW specific parameters, O/P 2 parameters are only used when a second DAW is connected and the two O/P mode is enabled.

O/P-1 is labelled 'B:' in the display and is labelled 'Output' on the rear of the PD-1
 O/P-2 config is only available when Auto-02 is set to two output mode. In this mode the Input is re-configured as O/P-2. O/P-2 is labelled 'A:' in the display and labelled 'Input' on the rear of the PD-1.

Track Arm Command

#1 ProT64 - 01 Track Arm Command
 1= Extended 2=Sony

Use Extended Track Arm commands when connected to Protools or Pyramix, use Normal Track Arm commands when connected to recorders that do not understand the extended protocol.

Note1: Only the extended protocol allows control of Solo, Mute, Pec/Direct, Safe and will read stem/track names.

Note2: Use the Extended protocol to access more than 64 tracks on Protools

Sony Record Tracks

#1 ProT64 - 02 Sony Record Tracks
 1= Off 2=A 3=8 4=16 5=24 6=48 7=64 8=96

This menu determines the maximum number of tracks controlled by the standard Sony protocol record command. The normal record command can arm 64 Tracks on the current Protools. Use the Extended Record command to allow the PD-1 to access more than 64 tracks.

See Menu #1 prot64 -01 to select between Extended and Normal commands.

Command Interval

#1 ProT64 - 03 Command Interval
 1=Short 2=1/2 Frame 3=1 Frame

Using the Sony protocol the Trac2k arm and Record commands are sent separately, Ideally this should be set to 1=Short. Depending on the Protools version it may be necessary to increase interval between these commands as some versions have no command buffering.

Stem and Track Name Request

#1 ProT64 - 04 Stem & Track Name Request
 1= Combined 2= Separate

1. Combined: Default setting for ProTools
2. Separate: Default setting for Pyramix

Position Request type

#1 ProT64 – 05 Position
1= LTC 2= VITC 3= L+V 4= Tim-1 5= L+V+T

Sony 9 pin allows for LTC, VITC and Timer 1 and Timer 2 position requests

5=E-Net

The Ethernet Menu's allow you to enable DHCP and monitor Ethernet activity
To access the E-Net Menu return to the root Menu and use 5= E-Net

DHCP/IP

```
DHCP Off PD-default Ip 192.168.000.025
1= On/Off Master Mac CC:4D:2E:A7:76:42
```

- DHCP Off DHCP Status
- PD_Default Name of unit
- IP 192.168.000.025 IP Address of unit (Use RS422Upd or DHCP to Change)
- 1=On/Off Use Solo-1 to Enable/Disable DHCP
- Master Master/Slave Status of the unit
- Mac CC:4D:2e:A7:76:42 Mac Address of Unit

When DHCP is enabled the PD-1 will look for a DHCP server, if found then a new IP address will be assigned and DHCP will be disabled. If no DHCP server is found then the PD-1 will revert to it's original IP address.

Socket Debug

```
D.IP 192.168.000.025 Dst: 0000 0000 0000
Skt 0 UDP UDP Src: 2714 0000 0000
```

Use Solo 1-8 to select Skt 0-7

Socket 0 Discovery (UDP)

Socket 1 RS422 Controller via ethernet (UDP)

- D.IP Destination IP Address (Updated of receipt of data)
- Dst: Destination (Rx) Port + Buffer In/Out
- Src: Source (Tx) Port + Buffer In/Out

Common Debug

```
Mode 0 Skt IRQ 00C1 Mask 255.255.255.000
Mac CC:4D :2E:A7 :76 :42 Ip 192.168.000.025
```

- Mode
- Skt IRQ Skt IRQ Flags + Mask
- Mask Sub-net mask
- Mac Mac Address of Unit
- IP IP Address of unit (Use RS422Upd or DHCP to Change)



Setting up Stems and Tracks

There are two ways that Tracks and Stems may be configured.

- 1) Use the Auto-Stem feature to read the track names from protocols, The Auto-Stem software will assign the tracks to stems depending on the naming of the tracks.
- 2) Use the PD2-mac/PD2-win software to define the tracks and stems.

Auto-Stem

To read and display the track and stem names correctly the PD-1 must be set correctly, after a Factory Reset (Unit | Test/Display 5=Factory) the following menu options must be set:

Auto-01 Track/Stem Assign: This must be set to 1= On in order to read the track names, or 3=Auto-Stem to read track names and build stems

Auto-02 Number of Outputs : Set to one or two as required

Auto-03 O/P-1 Number of tracks : Determines the number of track names read on main DAW, set as required.

Auto-04 O/P-2 Number of tracks : Determines the number of track names read on the second DAW (ignored if Auto-02 is set to one), set as required.

Auto-05 Stem & Track Name Format: Set according to your stem/track naming convention, we recommend 5= Stem Track.

Auto-06 After Auto-Stem : Normally set to 2=Lock

Unit-09 Stem & Track Display: set to Stem & Track to display the stem names and track names.

O/P | Stem & Track Name Request: This is DAW dependent and should be set as follows

1=Combined for ProTools

2= Separate for Pyramix

With the latest software this is automatic provided that the device name is set correctly in the DAW.

Auto-Stem

In Order for the auto-stem logic to work correctly the stem and track names should read correctly and the unit set as detailed above. Then select 3= Auto-stem in the Track Assign Menu, leave setup and the rest is Magic! If you are having problems the email us a text file with a list of the track names, the setup that you are using, and the date of the software and we will try and help.

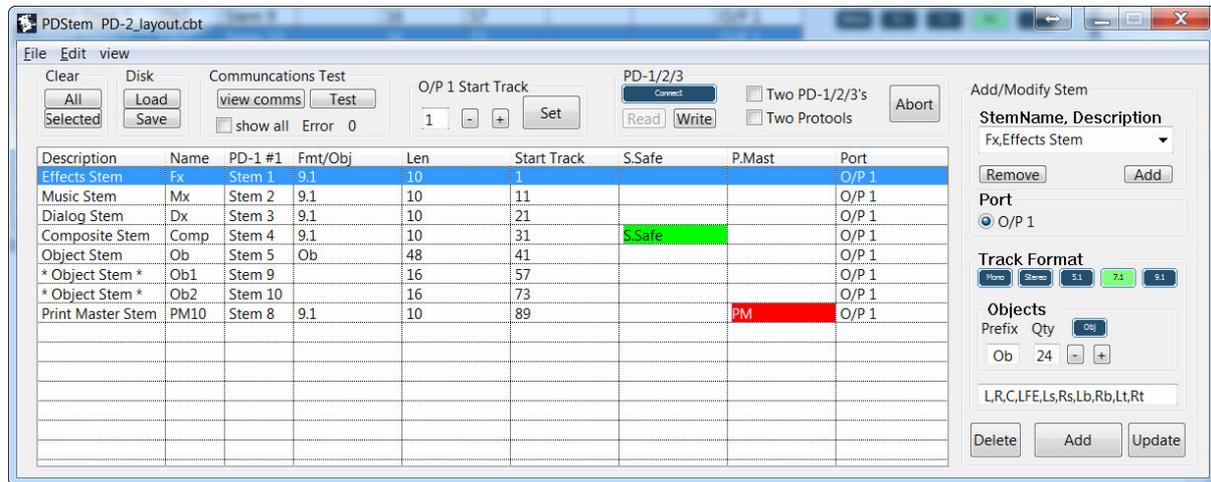


PDStem-Win/Mac Software

This software is available for PD-1net software and allows offline stem configuration of the PD-1net/PD-2/PD-3. Used to define stem width, track names, Print Master and Solo Safe. Stem setups for two machines allows in a maximum of 192 tracks with object stems of up to 64 tracks.

When using the PDStem-win/mac software the stems may be arranged in any order, when using two PD-1's the stem order may be defined for each PD-1 separately.

Once defined the stem layout and names can be sent to the PD-1. Connection via Ethernet.



The screen shot above shows a 9.1 Atmos setup with a 48 track object stem. The stem names, stem descriptions and track names are user definable for 5 track formats.

Note 1. The tracks are sequential, the start track may be set for O/P1 and if O/P2 is enabled the start track is assumed to be track 1. The Stems may be assigned in any order.

Note 2. The extra object tracks have been moved to the second bank to show that they can.

Rear Panel Connections

Serial In

As a RS422 Input

Normally a RS422 input to the PD-1, used when daisy chaining multiple units, or to save/recall track assignments from an external computer. A special converter card is available to connect power to the PD-1 via this input. Use the CB Electronics USB-422 (USB to RS422) or similar when connected to a windows pc to upload new firmware, or save/recall PD-1 configurations using the support software.

As a 2nd RS422 output

May be configured as an output to control up to 64 tracks on a second Protocols. (menu Auto-02 Number of outputs 2=Two)

Serial Out

Master

RS422 output from the PD-1 should be connected to the machine emulation input of the DAW, record track arming up to 128 tracks.

Slave

When multiple PD-1's are used, connect to the Input of the next PD-1.

Note. where the master unit is connected to two DAW's Ethernet must be used to connect the units

Ethernet

100/10 Ethernet connection, used to link PD-1net's and to connect with the PDStem-mac/win s/w.

Note. The RJ45 is configured as a device and may be connected directly to a computer or via a auto-switching hub/switch. When connecting two PD-1NET's they must be connected via a hub/switch.

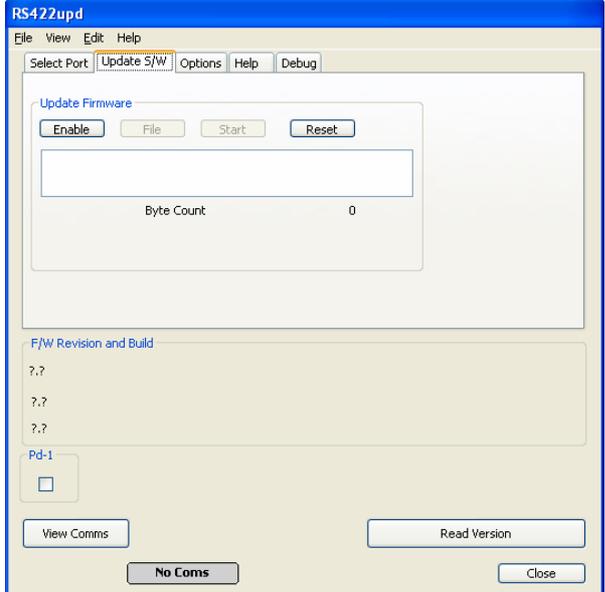
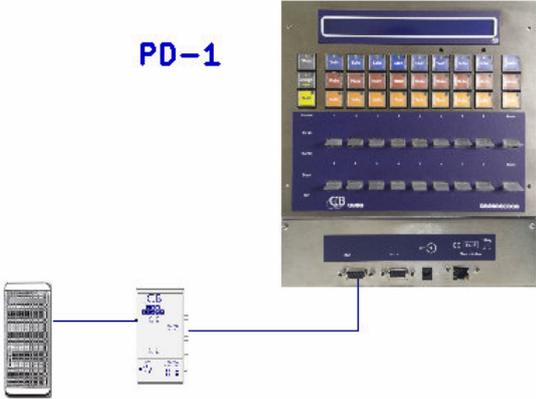
+5v

Connect to the supplied 5v Power supply, the centre pin is positive.

Software Updates

May be downloaded from our website and installed by the user. For details go to the customer area on our website, <http://www.colinbroad.com/cbsoft/pd1net/pd1net.html> and download the install program and updates.

Download RS422upd-mac/win to update the RS422 Firmware from the same page

RS422upd Screenshot	Programming connection
	 <p>Note USB-422 Output Connected to PD-1net input</p>

Recovery Mode

In the case of power failure or other problems when updating the PD-1net firmware the normal software will not function.

1. Remove the power and reconnect whilst depressing [Bank] (Previously Assign) and [Stem0]. The Software Download screen will be displayed.

You can then program the PD-1net as normal

Appendix

Using the PD-1net with a Pro Tools

The PD-1net may be used on Pro Tools version 7.2 and later. See separate document "pd1template.pdf" for full details.

Connect the output of the PD-1net to Pro Tools via the CB Electronics USB-422 (A suitable Driver will be required) or similar device. Configure Port-A on the USB-422 as the Remote input to Pro Tools and enable. A standard Sony 9 pin cable may then be used to connect the Output of the PD-1 to port A on the USB-422.

RJ45 to DB9 Converter

Two RJ45 to DB9 converters are supplied with a new PD-1net, These can be used with RJ45 cable to connect the PD-1net Output to the USB-422-A (input).

Pro Tools set-up : Single Pro Tools

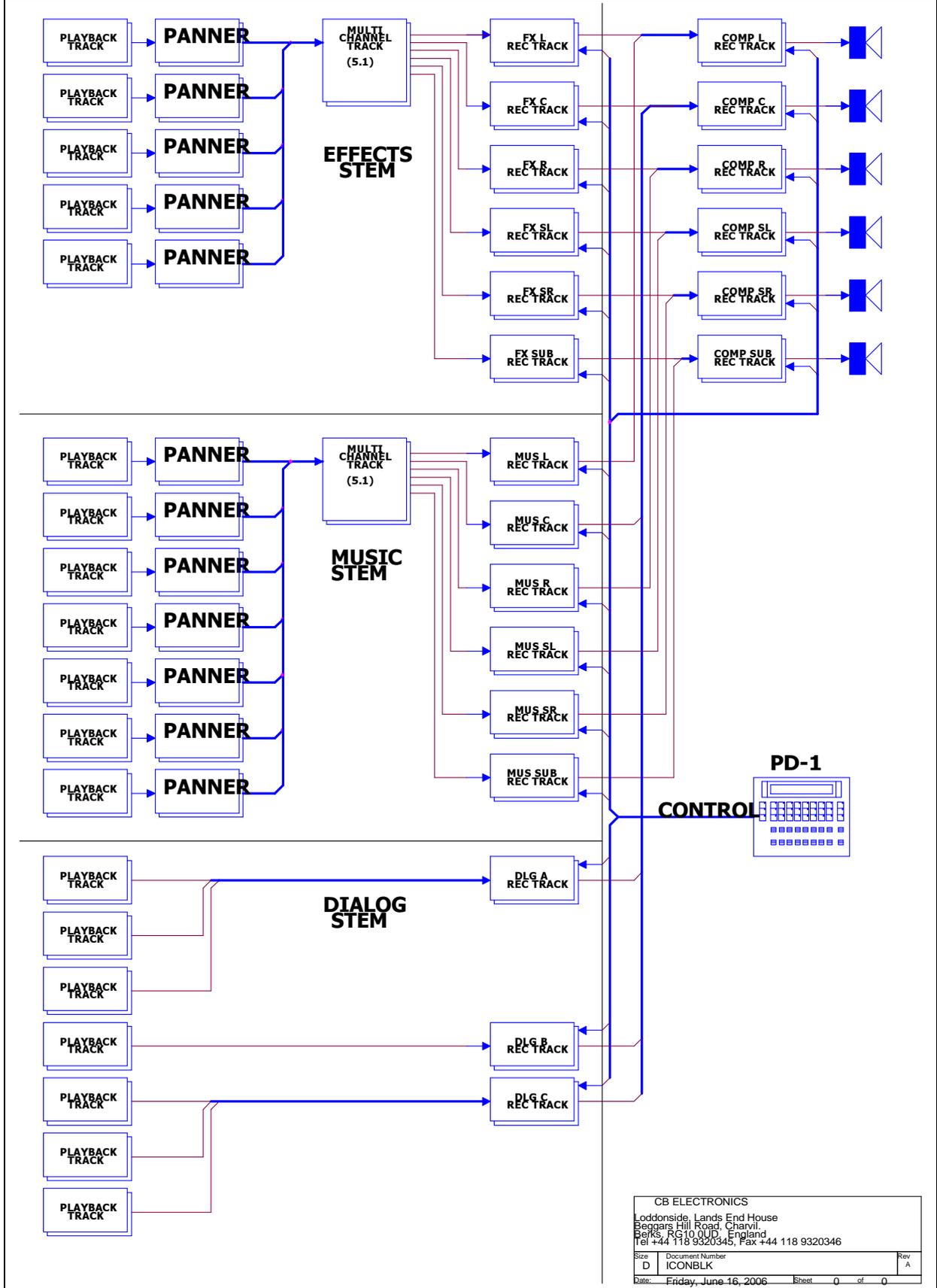
- 1) Build multi-channel tracks (5.1...7.1) for each stem so that the pan will operate correctly
- 2) Pro-Tools Preference >Synchronisation > Allow Tracks Arm Commands in Local Mode.
- 3) Route the multi-channel track outputs to individual mono tracks for recording
- 4) Mix the stem outputs to a composite stem
- 5) Root the composite stem outputs to your monitoring system
- 6) Enable solo safe on the multi-track stem, the individual record stems and the composite stems
- 7) Connect the PD-1 and set for Solo via mute and internal solo safe.
- 8) On the PD-1 enable solo safe the composite stem.
- 9) Solo safe any effect send and returns (For example reverb)

Pro Tools set-up: Separate Record Pro Tools

- 1) Route the track inputs from the stems to individual tracks to record
- 2) Mix the stem outputs to a composite stem
- 3) Root the composite stem outputs to your monitoring system
- 4) Enable solo safe on the composite stems
- 5) Connect the PD-1 and select Solo using Mute or Solo.
- 6) On the PD-1 enable solo safe the composite stem, otherwise soloing any stem will mute the composite stem!
- 7) On your playback system Solo safe any effect send and returns (For example reverb)

The suggested ProTools signal path below may be used with or without a separate record ProTools. The PD-1NET controls the record and monitor on the stems and on the final mix (comp). Care should be taken over the track names so that they can recognised in the first four characters. For instance two stems 'Music1' and 'Music2' will both show as 'Musi', use 'Mus1' and 'Mus2' or equivalent.

Suggested ProTools Signal Path





Using the PD-1net with Pyramix

The PD-1net may be used on Pyramix version 5.XX.XSP2 and later.

Connect the output of the PD-1 to Pyramix via the CB Electronics USB-422 (A suitable Driver will be required) or similar device. Configure Port-A on the USB-422 as the Remote input to Pyramix and enable. A standard Sony 9 pin cable may then be used to connect the Output of the PD-1 to port A on the USB-422.

PD-1net Trouble Shooting Guide			
No.	Problem	PD-1net	Protools
1	Pec/Direct paddles Not working	Check that they are not safed on the PD-1net	Check that the track has an input.
2	Autostem Not Working At All	No Communications with Protools	
3			
4			
5			
6			
7			
8			
9			

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