GLD TCP/IP Protocol - Firmware V1.1

08/02/2013

This protocol is for use with GLD systems loaded with firmware version V1.1 and later.

GLD supports TCP/IP control via the **Network** port on the rear of the GLD-80 mixer.

The following functions can be controlled using TCP/IP:

Fader levels	Input, Mix masters, FX send, FX return, DCA
Mutes	Input, Mix masters, FX send, FX return, DCA
Send levels	Aux and FX sends
DCA assign	
Input to Main mix assign	
Preamp	Gain
Preamp	Pad, 48V
Channel Name and Colour	
Scene Recall	
Mix key select	

Client Configuration

Clients should be configured to use TCP port 51325

Messages

The control messages are based on the GLD MIDI protocol.

Note GLD MIDI channel number is used within the TCP/IP messages. Make sure the MIDI channel number used in the TCP/IP messages and the MIDI channel number set on the GLD using its **Setup / Control / MIDI** screen are the same.

All message numbers shown in this specification are hexadecimal.

Refer to the end of this specification for a table of message values for the variable parameters listed here.

MIDI channel number

N (see **Note** above)

MIDI channel 1 to 16 = 0 to F

Channel numbers

CH (refer to table)

FX Send 1 to 8 = 00 to 07

FX Return 1 to 8 = 08 to 0F

DCA 1 to 16 = 10 to 1F

Input 1 to 48 = 20 to 4F

Mix 1 to 20 = 60 to 73

Mute control

Mute On	9**N**, **CH**, 7F, **CH**, 00	On value = 40 to 7F
Mute Off	9**N**, **CH**, 3F, **CH**, 00	Off value = 01 to 3F, 00 ignored

Fader Level

BN, 63, **CH**, 62, 17, 06, **LV**	Fader value **LV** –inf to +10dB = 00 to 7F (refer to table)

Channel Assignment to Main Mix control

Mix On	BN, 63, CH, 62, 18, 06, 7F	On value = 40 to 7F
Mix Off	BN, 63, CH, 62, 18, 06, 3F	Off value = 00 to 3F

AUX / FX Send Level

BN, 63, CH, 62, Snd, 06, LV

Snd for Mix 1 to 30 = 20 to 3D

Send value LV –inf to +10dB = 00 to 7F

Mix buses 1-30 follow the order of the current configuration:

- Mono Groups
- Stereo Groups
- Mono FX
- Mono Auxes
- Stereo FX
- Stereo Auxes
- Main Mix

Groups and Main mix do not have send levels and these messages are ignored.

Note The order depends on the current configuration and can change if the Mixer Config is changed.

Example – Template1 LR Show

20	1	StGrp1L	30	17	Aux5
21	2	StGrp1R	31	18	Aux6
22	3	StGrp2L	32	19	StAux
23	4	StGrp2R	33	20	(StAux1)
24	5	FX1	34	21	Main L
25	6	FX2	35	22	Main R
26	7	FX3	36	23	-
27	8	FX4	37	24	-
28	9	FX5	38	25	-
29	10	FX6	39	26	-
2A	11	FX7	3A	27	-
2B	12	FX8	3B	28	-
2C	13	Aux1	3C	29	-
2D	14	Aux2	3D	30	-
2E	15	Aux4			
2F	16	Aux4			

DCA Assignment control

Assign On	BN, 63, CH, 62, 40, 06, DB	On value DB = 40 to 4F for DCA 1 to 16
Assign Off	BN, 63, CH, 62, 40, 06, DA	Off value DA = 00 to 0F for DCA 1 to 16

Socket Preamp numbers

MP (refer to table)

dSNAKE 1-24 (AR2412) preamp MP = 00 to 17

dSNAKE 25-32 (AR2412 Expander) preamp MP = 18 to 1F

Surface 33-40 (Expander) preamp MP = 20 to 27

Surface 41-44 preamp MP = 28 to 2B

Socket Preamp Gain

This adjusts the Gain of the preamp at a socket: (refer to table for MP and GV values)

Gain	EN, MP, GV	GAIN value GV min to max = 00 to 7F

Socket Preamp Pad

This turns the -20dB Pad on or off for the preamp at a socket

To get Pad status from GLD:

Send… F0, 00, 00, 1A, 50, 10, 01, 00, 0N, 07, MP, F7 where MP = socket as above

Reply… F0, 00, 00, 1A, 50, 10, 01, 00, 0N, 08, MP, Pad, F7 where Pad Off = 00, On = 7F

To set Pad:

F0, 00, 00, 1A, 50, 10, 01, 00, 0N, 09, MP, Pad, F7 where Pad Off = 00, On = 7F

Socket Preamp 48V

This turns 48V (Phantom Power) on or off for the preamp at a socket

To get 48V status from GLD:

Send… F0, 00, 00, 1A, 50, 10, 01, 00, 0**N**, 0A, **MP**, F7 where **MP** = socket as above

Reply… F0, 00, 00, 1A, 50, 10, 01, 00, 0**N**, 0B, **MP**, **48V**, F7 where **48V** Off = 00, On = 7F

To set 48V:

F0, 00, 00, 1A, 50, 10, 01, 00, 0**N**, 0C, **MP**, **48V**, F7 where **48V** Off = 00, On = 7F

Channel Name

This gets or sets the Name with up to 8 characters (up to 5 can be displayed on the GLD strip LCD)

To get Name from GLD:

Send… F0, 00, 00, 1A, 50, 10, 01, 00, 0**N**, 01, **CH**, F7

Reply… F0, 00, 00, 1A, 50, 10, 01, 00, 0**N**, 02, **CH**, **Name**, F7 where **Name** = hex ascii characters

To set Name:

F0, 00, 00, 1A, 50, 10, 01, 00, 0**N**, 03, **CH**, **Name**, F7 where **Name** = hex ascii characters

Channel Colour

This gets or sets the Colour with a choice of off or one of 7 colours

To get Colour from GLD:

Send… F0, 00, 00, 1A, 50, 10, 01, 00, 0**N**, 04, **CH**, F7

Reply… F0, 00, 00, 1A, 50, 10, 01, 00, 0**N**, 05, **CH**, **Col**, F7 where **Col** = 00 to 07 (see table)

To set Colour:

F0, 00, 00, 1A, 50, 10, 01, 00, 0**N**, 06, **CH**, **Col**, F7 where **Col** = 00 to 07 (see table)

Scene Recall

To recall one of the 400 Scenes (4 banks)

Also transmits this message when a Scene is recalled from the GLD screen

For Scene 1 to 128:	B**N**, 00, 00, C**N**, **SS**	Scene **SS** 1 to 128 = 00 to 7F	(see table)
For Scene 129 to 256:	B**N**, 00, 01, C**N**, **SS**	Scene **SS** 129 to 256 = 00 to 7F	
For Scene 257 to 384:	B**N**, 00, 02, C**N**, **SS**	Scene **SS** 257 to 384 = 00 to 7F	
For Scene 385 to 500:	B**N**, 00, 03, C**N**, **SS**	Scene **SS** 385 to 500 = 00 to 73	

MIX Select

A**N**, **CH**, **Sel** where **Sel** 0 = MIX off
1 = MIX on

Refer to table on next page for values…

Scene number

SS Hex

00	1	129	257	385
01	2	130	258	386
02	3	131	259	387
03	4	132	260	388
04	5	133	261	389
05	6	134	262	390
06	7	135	263	391
07	8	136	264	392
08	9	137	265	393
09	10	138	266	394
0A	11	139	267	395
0B	12	140	268	396
0C	13	141	269	397
0D	14	142	270	398
0E	15	143	271	399
0F	16	144	272	400
10	17	145	273	401
11	18	146	274	402
12	19	147	275	403
13	20	148	276	404
14	21	149	277	405
15	22	150	278	406
16	23	151	279	407
17	24	152	280	408
18	25	153	281	409
19	26	154	282	410
1A	27	155	283	411
1B	28	156	284	412
1C	29	157	285	413
1D	30	158	286	414
1E	31	159	287	415
1F	32	160	288	416
20	33	161	289	417
21	34	162	290	418
22	35	163	291	419
23	36	164	292	420
24	37	165	293	421
25	38	166	294	422
26	39	167	295	423
27	40	168	296	424
28	41	169	297	425
29	42	170	298	426
2A	43	171	299	427
2B	44	172	300	428
2C	45	173	301	429
2D	46	174	302	430
2E	47	175	303	431
2F	48	176	304	432
30	49	177	305	433
31	50	178	306	434
32	51	179	307	435
33	52	180	308	436
34	53	181	309	437
35	54	182	310	438
36	55	183	311	439
37	56	184	312	440
38	57	185	313	441
39	58	186	314	442
3A	59	187	315	443
3B	60	188	316	444
3C	61	189	317	445
3D	62	190	318	446
3E	63	191	319	447
3F	64	192	320	448

SS Hex

40	65	193	321	449
41	66	194	322	450
42	67	195	323	451
43	68	196	324	452
44	69	197	325	453
45	70	198	326	454
46	71	199	327	455
47	72	200	328	456
48	73	201	329	457
49	74	202	330	458
4A	75	203	331	459
4B	76	204	332	460
4C	77	205	333	461
4D	78	206	334	462
4E	79	207	335	463
4F	80	208	336	464
50	81	209	337	465
51	82	210	338	466
52	83	211	339	467
53	84	212	340	468
54	85	213	341	469
55	86	214	342	470
56	87	215	343	471
57	88	216	344	472
58	89	217	345	473
59	90	218	346	474
5A	91	219	347	475
5B	92	220	348	476
5C	93	221	349	477
5D	94	222	350	478
5E	95	223	351	479
5F	96	224	352	480
60	97	225	353	481
61	98	226	354	482
62	99	227	355	483
63	100	228	356	484
64	101	229	357	485
65	102	230	358	486
66	103	231	359	487
67	104	232	360	488
68	105	233	361	489
69	106	234	362	490
6A	107	235	363	491
6B	108	236	364	492
6C	109	237	365	493
6D	110	238	366	494
6E	111	239	367	495
6F	112	240	368	496
70	113	241	369	497
71	114	242	370	498
72	115	243	371	499
73	116	244	372	500
74	117	245	373	
75	118	246	374	
76	119	247	375	
77	120	248	376	
78	121	249	377	
79	122	250	378	
7A	123	251	379	
7B	124	252	380	
7C	125	253	381	
7D	126	254	382	
7E	127	255	383	
7F	128	256	384	

Input Channel number

CH Hex

CH	Hex	CH	Hex	CH	Hex
1	20	17	30	33	40
2	21	18	31	34	41
3	22	19	32	35	42
4	23	20	33	36	43
5	24	21	34	37	44
6	25	22	35	38	45
7	26	23	36	39	46
8	27	24	37	40	47
9	28	25	38	41	48
10	29	26	39	42	49
11	2A	27	3A	43	4A
12	2B	28	3B	44	4B
13	2C	29	3C	45	4C
14	2D	30	3D	46	4D
15	2E	31	3E	47	4E
16	2F	32	3F	48	4F

FX Return

CH Hex

CH	Hex
1	08
2	09
3	0A
4	0B
5	0C
6	0D
7	0E
8	0F

AUX/FX Send

Snd Hex

Mix	Hex
1	20
2	21
3	22
4	23
5	24
6	25
7	26
8	27
9	28
10	29
11	2A
12	2B
13	2C
14	2D
15	2E
16	2F
17	30
18	31
19	32
20	33
21	34
22	35
23	36
24	37
25	38
26	39
27	3A
28	3B
29	3C
30	3D

Follows order of Mix buses

Mix Channel number

CH Hex

Mix	Hex	Mix	Hex
1	60	17	70
2	61	18	71
3	62	19	72
4	63	20	73
5	64		
6	65		
7	66		
8	67		
9	68		
10	69		
11	6A		
12	6B		
13	6C		
14	6D		
15	6E		
16	6F		

FX Send

CH Hex

CH	Hex
1	00
2	01
3	02
4	03
5	04
6	05
7	06
8	07

Socket Preamp

MP

AR2412

Skt	Hex	Skt	Hex
1	00	17	10
2	01	18	11
3	02	19	12
4	03	20	13
5	04	21	14
6	05	22	15
7	06	23	16
8	07	24	17
9	08		
10	09		
11	0A		
12	0B		
13	0C		
14	0D		
15	0E		
16	0F		

AR2412 Expander

Skt	Hex
25	18
26	19
27	1A
28	1B
29	1C
30	1D
31	1E
32	1F

Mixer Expander

Skt	Hex
33	20
34	21
35	22
36	23
37	24
38	25
39	26
40	27

Mixer Inputs

Skt	Hex
41	28
42	29
43	2A
44	2B

Name

Char	Ascii
A	41
B	42
C	43
D	44
E	45
F	46
G	47
H	48
I	49
J	4A
K	4B
L	4C
M	4D
N	4E
O	4F
P	50
Q	51
R	52
S	53
T	54
U	55
V	56
W	57
X	58
Y	59
Z	5A
a	61
b	62
c	63
d	64
e	65
f	66
g	67
h	68
i	69
j	6A
k	6B
l	6C
m	6D
n	6E
o	6F
p	70
q	71
r	72
s	73
t	74
u	75
v	76
w	77
x	78
y	79
z	7A
0	30
1	31
2	32
3	33
4	34
5	35
6	36
7	37
8	38
9	39
Space	20
!	21
"	22
#	23
%	25
&	26
'	27
(	28
)	29
*	2A
+	2B
,	2C
-	2D
.	2E
/	2F
<	3C
=	3D
>	3E
?	3F
@	40
[	5B
\	5C
]	5D
_	5F
{	7B
}	7D
~	7E

MIDI channel

N

Mix	Hex
1	0
2	1
3	2
4	3
5	4
6	5
7	6
8	7
9	8
10	9
11	A
12	B
13	C
14	D
15	E
16	F

DCA number

CH

DCA	Hex
1	10
2	11
3	12
4	13
5	14
6	15
7	16
8	17
9	18
10	19
11	1A
12	1B
13	1C
14	1D
15	1E
16	1F

DCA on/off

DA DB

DCA	off	on
1	00	40
2	01	41
3	02	42
4	03	43
5	04	44
6	05	45
7	06	46
8	07	47
9	08	48
10	09	49
11	0A	4A
12	0B	4B
13	0C	4C
14	0D	4D
15	0E	4E
16	0F	4F

Fader level

LV

dBu	Hex	Dec
+10	7F	127
+5	74	117
0	6B	107
-5	61	97
-10	57	87
-15	4D	77
-20	43	67
-25	39	57
-30	2F	47
-35	25	37
-40	1B	27
-45	11	17
-inf	00	0

[(Gain+54)/64]*7F

Gain value

GV

dB	Hex	Dec
+60	7F	127
+55	67	103
+50	5C	92
+45	50	80
+40	45	69
+36	3C	60
+32	32	50
+28	29	41
+25	22	34
+22	1B	27
+18	12	18
+14	09	9
+10	00	0

[(Gain-10)/55]*7F

Colour

Col

Colour	Hex
Off	00
Red	01
Green	02
Yellow	03
Blue	04
Purple	05
Lt Blue	06
White	07