SCANPRO20 Program board manual

Technical Specification

- designed for >20k scanner
- 5 operation mode set by DIP switch.:DMX512,sound,self-test,animation, combination picture effect,□
- 3 laser Mod output, TTL
- Axis resolution:8bit,-5~+5V,differential
- ILDA auto switch
- 4 animtion,128 figure,32 combination picture effect inside
- Power requirement: +15V / -15V
- DMX control- 14channel
- DIP switch table: sets operation mode

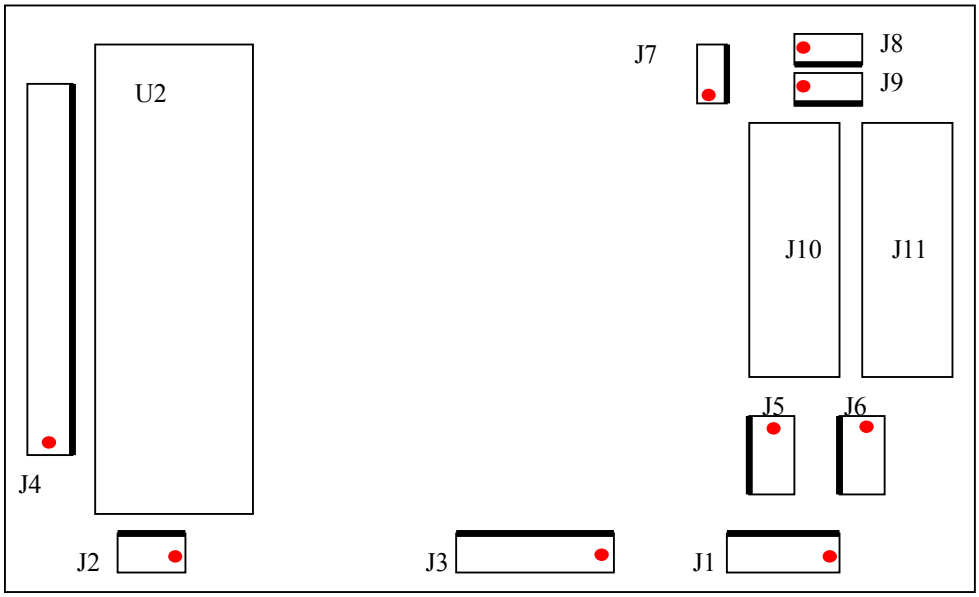
□ □	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
DMX512	**on**	**H-add**								**L-add**
Sound	**off**	*	*	*	*	*	**on**	**on**	**on**	**off**
Combination picture effect	**off**	*	*	*	*	*	**on**	**on**	**off**	**on**
Animation	**off**	*	*	*	*	*	**on**	**off**	**on**	**on**
Self-test	**off**	*	*	*	*	*	**off**	**on**	**on**	**on**

DMX512 DIP switch table

Add	1	2	3	4	5	6	7	8	9	10
001	**on**	**on**	**on**	**on**	**on**	**on**	**on**	**on**	**on**	**Off**
□□□□										
019	**on**	**on**	**on**	**on**	**on**	**on**	**off**	**on**	**off**	**off**
□□□□										
511	**off**	**off**	**off**	**off**	**off**	**off**	**off**	**off**	**off**	**off**

Board pinout

Top view



Red dot marks pin one on each connector

Connector pinouts:

J1- Power input: **PIN1:**Gnd **PIN2:**NC **PIN3:**-15V **PIN4:**+15V

J2- DMX512 input: PIN1: Gnd **PIN2:**S- **PIN3:**S+

J3– Mic+Pot input: PIN1/2/3:100K Pot (Pin2 to wiper) **PIN4:**Mic S+ **PIN5:**Gnd

J4- DMX512 address switch

J5- Output to X scanner: PIN1:S+ **PIN2:**S- **PIN3:**SG

J6- Output to Y scanner: PIN1:S+ **PIN2:**S- **PIN3:**SG

J7- Laser Mod for Blue: PIN1:S+ **PIN2:**Gnd

J8- Laser Mod for green: PIN1:S+ **PIN2:**Gnd

J9- Laser Mod for red: PIN1:S+ **PIN2**:Gnd

J10- ILDA input

J11- ILDA output

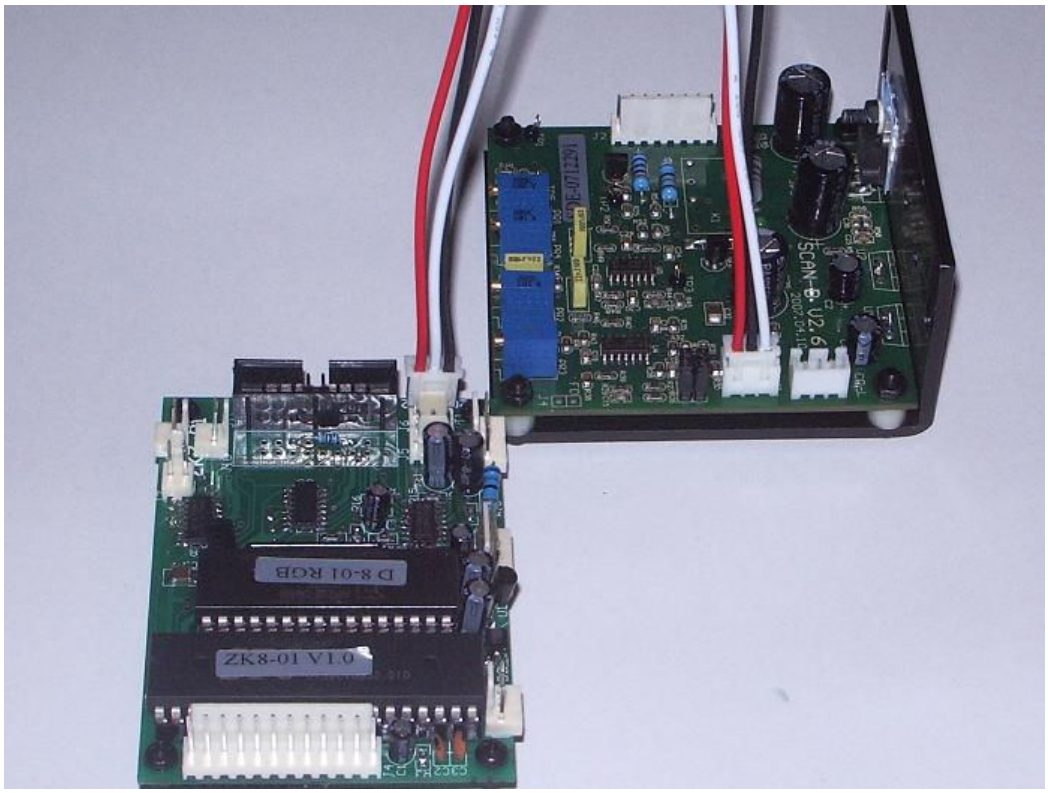
Connecting to the SCANPRO20 kit:

The SCANPRO20 kit should have come with 4 3 pin (red, white, black wires) cables. 2 will be used as described in the scanpro20 manual for power. The other 2 cables are for signal.

One end of each able plugs into the scan amp, so that white corresponds to S-, black to SG, and red to S+.

The end of the cable that plugs into the program board needs to be modified.

Modification entails swapping the black and white wires on the socket. You can do this quite easily by pushing the metal barb down and pulling the wire out of the socket.. If it is easier, simply cut the white and black wires and join the black wire to the white, and so forth. Below is a picture showing the order of the colors



DMX Channel description

14 DMX channels. They are listed in the following table.

CHANNEL	DMX VALUE	DESCRIPTION
1 Function select	0-63	Laser OFF
	64-127	Laser ON, animation
	128-191	Laser ON, geometric picture
	192-255	Laser ON, combination picture effect

Term explanation:
Animation: a program made by a group of constant pattern.
Geometric picture: static picture, users can edit moving effect via DMX512 controller.
Effect: pictures have had movement parameters, users cannot edit.

The following channels are only for channel 1 value 64-127, animation.

CHANNEL	DMX VALUE	DESCRIPTION
2 Animation Selection	0-63	Animation 1
	64-127	Animation 2
	128-191	Animation 3
	192-255	Animation 4
3 Animation movement Speed(8 grade)	0-31	Speed 1 (fastest)
	32-255	Speed 2-8(slow)
4 X Size adjust	0-255	Full range 1/8~100% (8 grade)
5 Y Size adjust	0-255	Full range 1/8~100% (8 grade)

The following channels are only for channel 1 value 128-191, geometric picture. 128 static pictures that divided into 8 groups through channel 2 to choose the group number; every group is made up of 16 pictures and through channel 3 to choose a picture and through other channel to edit dynamic effect such as zoom in, rotate, move, write, etc. You can also edit static effect such as corner.

CHANNEL	DMX VALUE	DESCRIPTION
2 Picture Group Selection	0-255	Picture group 1~8 (8 groups)

3 Picture Selection	0-255	Picture 1~16 in each group (16 grade)
4 X Size adjust	0-255	Full range 1/8~100% (8 grade)
5 Y Size adjust	0-255	Full range 1/8~100% (8 grade)
6 Zoom In and Out (16 grade)	0-15	Zoom in and out without change
	16-127	Zoom out range from small to large
	128-143	Zoom in and out without change
	144-255	Zoom int range from large to small
7 Horizontal Rotation (16 grade)	0-15	Stationary
	16-127	Clockwise rotation speed(7 grade)
	128-143	Stationary
	144-255	Anti-Clockwise rotation speed(7 grade)
8 Vertical Rotation (16 grade)	0-15	Stationary
	16-127	Clockwise rotation speed(7 grade)
	128-143	Stationary
	144-255	Anti-Clockwise rotation speed(7 grade)
9 Centre Rotation (16 grade)	0-15	Stationary
	16-127	Clockwise rotation speed(7 grade)
	128-143	Stationary
	144-255	Anti-Clockwise rotation speed(7 grade)
10 Horizontal move (16 grade)	0-15	Stationary
	16-127	Horizontal move speed (7 grade) from left to right
	128-143	Stationary
	144-255	Horizontal move speed (7 grade) from right to left
11 Vertical move (16 grade)	0-15	Stationary
	16-127	Vertical move speed (7 grade) from down to up
	128-143	Stationary
	144-255	Vertical move speed (7 grade) from up to down
12 Rotation mode/draw speed	0-31	Rotation mode 1
	32-63	Rotation mode 2(picture centre)
	64-255	Draw speed (6 grade)
13 Flash speed	0-255	8 grade flash speed,=0 grade without flash
14 Color select (8 grade)	0-31	Original color
	32-63	Blue
	64-95	Green

	96-127	Red
	128-159	cyan
	160-191	purple
	192-223	Yellow
	224-255	White

The following channels are only for channel 1 value 192-255, effect selection. 32 pieces of “picture combination effect” which have had movement parameter and divided into 2 groups. Every group has 16 “picture combination effect”, through channel 2 to choose a group and through channel 3 to choose a “picture combination effect” in the group. “Picture combination effect” is different from common picture and it is designed specially and cannot be edited.

CHANNEL	DMX VALUE	DESCRIPTION
2 effect group selection	0-127	Effect group 1
	128-255	effect group 2
3 Effect selection (16 grade)	0-255	Effect 1~16
4	Not used	
4 X Size adjust	0-255	Full range 1/8~100% (8 grade)
5 Y Size adjust	0-255	Full range 1/8~100% (8 grade)