Strand Lighting

APRIL 18, 1997

PALS Pirouette
Version 2.0

Please Note

This is essential information

Please make sure that it is copied to all relevant dealer, sales and technical staff. This is your copy of the official issue notes. Please keep it for your future reference. Experience shows that many minor problems are resolved by reference to software issue notes.

1.   GENERAL INFORMATION

This software is for use on the PALS Pirouette.

This upgrade incorporates the MRL protocol.

2. COPYRIGHT NOTICE

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3. CHANGES

3.1. Host Program (host.exe)

Running the host program now automatically downloads the PALS code, prompting the user as necessary. It then starts PALS running in normal operation.

Using the 'debug' option on the command line (ie 'host debug') goes into debug mode where it operates as previously.

The default PALS configuration can be changed by specifying a configuration file during download. An example PALS configuration file (example.pcf) is provided. This should be copied to a new filename (but it must end in .pcf) then modified as necessary. These pcf files should be placed in the current directory when host.exe is run (the current directory may be different from the directory where host.exe resides). The host program allows one of these pcf files to be selected (max 10 pcfs).

A PCF file can be specified on the command line, eg 'host myconfig.pcf'. A full pathname can be specified so the file can be anywhere, eg 'host c:\pcf\myconfig.pcf'. If nul.pcf is specified, the download is done without using or prompting for a PCF.

The files that are downloaded by the host program to the PALS unit are now embedded in host.exe rather than being separate files (ie, only host.exe is now required).

The PALS configuration structure has changed. However the previous configuration is automatically read before the download then modified and rewritten after the download so that user settings are retained as previously.

3.2. PALS MRL Input

The MRL protocol is now implemented. The unit can be set for MRL operation in the Mode menu; the 'Mrl' menu can be used to set the MRL baud rate and address.

Note that the implementation is different from the MRL specification regarding the full-scale value. The specification calls for a range of 0 to 1000 for pan and tilt and 100 for focus.

- Pan. The specification calls for a range of 0 to 1000. The implementation follows Galaxy, which has a full scale of 999; a value of 1000 is allowed but is coerced to 999.

- Tilt. The specification calls for a range of 0 to 1000. The implementation follows Galaxy, which has a full range of 400; values up to 1000 are allowed but are coerced to 400. A value of 360 points straight down.

Note that the Tilt channel is inverted with respect to DMX to conform to the MRL spec.

- Focus. The specification calls for a range of 0 to 100, which is the same as Galaxy. The implementation however has a full scale of 99; a value of 100 is coerced to 99.

These MRL values are scaled internally to 0 to 1023 and then scaled to the operating range, which is about 50-100 to about 800-1000.

The console Stop button can be used to clear channel faults on all units (same as setting DMX velocity to 0). A GO command with a maximum time (254) will also clear faults on all or a specific unit.

The Diag\Conf\Tim# menu can be used to control the maximum time for a movement. This is normally set to the time (in seconds) for the slowest smooth movement possible over its full range. Default values are 60, 100 and 8 seconds. A value of 0 disables this facility.

3.3. PALS Switch Input

The Switch input is now implemented. The unit can be set for Switch operation in the Mode menu; the 'Swit' menu can be used to set the Cycle operation and the Presets used by the Switch.

The Switch is connected to the DMX/MRL input. When on, it must connect pin 3 to pin 1 (ground) and pull pin 2 above pin 1 by at least 3 volts.

3.4. PALS Version Information

At power up, the version number (2.00) is displayed for a short time.

If a PCF file was used at download time and this specified a PCF name, this name will be displayed for a short time after the version number is displayed.

The 'Ver' (version) menu has been moved to the top level from under the 'Set' menu. This now has the following sub entries; these text entries can be scrolled along by using the UP and DOWN keys.

Menu	Usage
Code	code version
PCF	name from the PCF file if used at download
Info	manufacturer name and copyright
Date	date of code build
Time	time of code build
SCCS	source control version

3.5. PALS Configuration

The maximum current for channel 1 (Diag/Conf/Cur1 menu) has been changed from 70 to 100 in order to avoid spurious over-current faults.

3.6. PALS Misc

When loading new PALS code into a unit with no PALS code or where the EEPROM versions are different, error 12 ('EEPROM data version different to expected') is got rather than error 11 ('EEPROM bad CRC').

4. REASON FOR CHANGES

Extra functionality and better user interface.

5. COMPATIBILITY

This version can be used with all previous PALS units. The previous configuration is retained.

For a new unit with no previous configuration, the default configuration is setup. Note that this default configuration is setup for the slower Pan gearbox (500:1). These units have a Product Code Number of either 17502 [230V] or 17503 [110V].

If downloading to older units with the faster Pan gearbox (200:1), the default configuration should be changed for Pan (Channel 1). These units have a Product Code Number of either 17500 [230V] or 17501[110V]. The FastPan.PCF file can be used when downloading and this will set the required values. The PCF name displayed on the PALS unit for this configuration is 'FPan'. This changes the default values as follows:

Setting	Changed	Original	
Kp	15	25	
Dec	5	40	
Lim	180	90	
Cur	220	100	(was previously 70)

6. ISSUE INFORMATION

The software is issued as a number of files.

File name	Description	Checksum
crcfile.crc	CRCs	
crccheck.exe	PC CRC check program	
release.doc	these release notes	
menu.doc	menu and error codes	b8c0
manual.doc	manual notes	424b
example.pcf	example PALS config file	db78
fastpan.pcf	PCF for PALS with fast pan	0d2b
host.exe	PC Program	b9b3
flash.hex	flash device image	??

The crcfile.crc and crccheck.exe files are used to verify the release files (see next section). The flash.hex file can be used to program the flash device using a commercial programming unit; this file is in Intel Hex format.

Refer to the User Manual for instructions on Code Installation and the Calibration Procedure.

7. VERIFYING FILES

The crcfile.crc file holds the release file checksums. These can be checked to verify that all files have the expected checksums. At the DOS prompt, first change to the directory with the crccheck.exe file in, then run the crccheck command. This will produce output as follows if the checksums are all correct. Any incorrect checksums or missing files will be shown.

```
A:\> crccheck
Crccheck  V1.0
(c) R.W. 1988
(c) Strand Lighting Ltd. 1989
[6] files checked
```

8.   SOURCE CODE

All source files are controlled by SCCS; these all have the SCCS ID version 2.1. The source code resides in the subdirectories rooted at:

\\sarah\home2\projects\pals95\soft\design

A copy of these release files resides in the following subdirectory:

\\sarah\home2\projects\pals95\soft\release.20