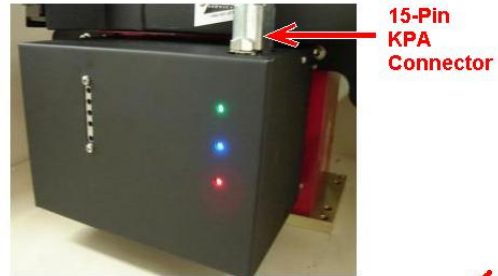


## CUSTOMER DFTS2 (D99) INSTALLATION NOTICE

Your klystron comes with CPI's new advanced Digital Fast Tuning System 2 (DFTS2). Unlike its predecessors it does not require a separate controller box (see below). All controller functionality now resides inside the tuner module itself. Instead of connecting your input power and interface cable to a separate controller box as was the case with the DFTS, you now simply plug them into the 15-pin KPA connector on top of the tuner module. Your state-of-the-art DFTS2 tuner is configured to be backward compatible with other Klystron Power Amplifier's (KPA). It can even be set up to emulate the Thales HSTS for use in other amplifiers including Aydin or MCL. Please download and refer to your user manual or call CPI customer support at 1-905-702-2203 for details.



**CPI Klystron with DFTS2 (D99)**  
One single enclosure housing tuner & controller



**CPI klystron with DFTS (D50)**  
Two separate enclosures for tuner & controller



Old controller found in early C and DBS band CPI GEN 1V KHPA's (2001 and earlier)



Old controller found in Ku and S band as well later (post 2001) C and DBS band CPI KHPA's.

The controller found in early C and DBS-band CPI Gen 4 KHPA's (2001 and earlier) must be removed from the KHPA. The controllers found in Ku and S band KHPA's as well the ones found in C and DBS band (post 2001) KHPA's are removed along with the klystron. These controllers are replaced by the DFTS2 found on your new klystron.

### Quick Set-Up

A DFTS2 klystron can be set up to replicate any 50-channel DFTS klystron via the setting of Parameter 101. Use CPI's software utility "FelixXP2" to interface with DFTS2 (requires computer with Microsoft Windows XP). For a free copy please call 1-905-702-2203.

Parameter 101	Mode	Description
0	DFTS compatible	The tuning system responds in the same way as the prior DFTS system v7.05. Some new features are available, such as software control of motor current.
1	DFTS2 enhanced	Error codes and status messages have extra detail, the product has the capacity for 99 channels of stored settings, and the channel database can be divided into two sets for different tuning patterns (Laptop with Felix software required to access this mode which is not available via the HPA. Must set to 0 or 1 for DFTS use with an HPA).
2	HSTS Compatible	This mode is useful in MCL and PTI/Vertex/Aydin amplifiers that were optimized for the Thales/Thomson HSTS. Apart from the “wake-up string”, this mode is the same as DFTS compatible mode.

## Status LEDs

The status lights on the front of the DFTS2 tuning module can help you troubleshoot problems. The normal start-up sequence is:

1. Green blinking fast (searching for boot-loader)
2. Green blinking fast, blue on, red on (going home)
3. Green blinking slow, blue blinking (going to active channel)
4. Green steady, blue blinking (ready)

Condition	Green	Blue	Red
Normal Operating Mode	ON if last command was good: see below for errors	Blinking: 1sec on/off	ON or blinking if last command was bad: see below for errors
Bootloader waiting to connect	BLINKING: 250msec on/off	OFF	OFF
Bootloader waiting for command or downloading new firmware.	OFF	OFF	ON
E00 on any command (latch)	ON	Blinking: 1sec on/off	OFF
Any error code (except for Motion Recovery or timeout: see below) (latch)	OFF	Blinking: 1sec on/off	ON
Motion recovery error code (latch until error code reported or 6 good channel changes)	ON if channel achieved, OFF if not achieved.	Blinking: 1sec on/off	BLINKING 1sec on/off
Timeout code	BLINKING: 1sec on/off	BLINKING 1sec on/off	BLINKING 1sec on/off
Working on valid command	BLINKING 1 sec on/off	Blinking: 1sec on/off	OFF
SEQUENTIAL (LOW-POWER) GOING HOME	BLINKING 250ms on/off	Blinking fast 250ms on/off	ON
NORMAL GOING HOME	BLINKING 250ms on/off	ON	ON

## For full instructions:

Go to <http://www.cpii.com/library.cfm/7#37> and click on the link for **Operating Manual: DFTS2 Advanced Digital Fast Tuning System**.